
Environmental Services Business Plan

Water Quality Division

Summary Business Plan

I. PURPOSE

A comprehensive water quality approach is an integral part of ensuring the quality of life enjoyed and shared by all citizens of Wake County. This FY2005-FY2007 Business Plan presents the Water Quality Division's strategy for managing our water resources. The Water Quality Division seeks to ensure that all of the water resources in Wake County are healthy and sustainable and that surface waters are not contaminated. Each of the following objectives serves as the fundamental framework for the development of the fully integrated water quality management program.

- Minimize adverse environmental impacts from land disturbance, operation of groundwater and wastewater treatment systems through inspections, design practice and enforcement.
- Protect and conserve water resources through environmental stewardship by adopting and setting internal policies and regulations.
- Protect and enhance the County's environment and public health by leading the County in managing water quality programs through partnerships with other County organizations, State and local governments to implement adopted Growth and Environmental Initiatives.
- Through educational programs, increase the scientific and environmental literacy of Wake County citizens so that, through their public support and responsible stewardship actions, Wake County government can successfully achieve its water quality, and public health initiatives as envisioned in the Wake County Environmental Stewardship Agenda.

Each of these components of the plan serve as the foundation for continuing to build upon the existing infrastructure and past successes in developing an integrated Water Quality Division approach that will serve the future generations of County residents and promote environmental leadership as set forth in the Environmental Stewardship Agenda adopted by the Board of County Commissioners.

Challenges Facing the Division

Wake County is in a period of transition with its water quality policies and organization. There continues to be substantially more to do to address the needs of the County. The adoption by the Wake County Board of Commissioners of the County's Watershed Management Plan (CH2MHill, 2002), and the Comprehensive Groundwater Investigation (CDM, 2003) have had a major impact on the approach and priorities the Division will take to achieve its goals and objectives. The implementation of these programs in addition to the day-to-day permitting and inspection activities will continue to challenge the Division's ability to satisfy all of the needs of the County. Other new regulatory mandates, notably NPDES Phase II Stormwater Program will also present additional challenges for staff, in that they will undoubtedly require continual assessment of staffing and priorities, and may require new funding sources.

The priorities of the Division's business are driven by mandated services and adopted plans. It is the intent of setting expectations for staff that the Division continue to support mandated services in a cost-effective manner while dealing with the effects of rapid urbanization, which ultimately affects water quality. Given that, the scope of services for the Division needs to focus on activities which meet the goals of providing services as required by law, but also to preserve our natural resources and minimize environmental impacts throughout our community. These goals are synonymous with previous goals set by the Division, but with the expectation that changes in responsibilities and priorities are needed to achieve both.

- This Division will focus on executing mandated local and state requirements that are intended to govern on-site systems that draw potable water from groundwater sources and return wastewater to the ground. It also focuses on ensuring that the residuals (septage pumped from septic tanks) are properly treated in land applications and wastewater treatment plants.
- This Division will focus on executing mandated local and state requirements that are intended to reduce the impact of urbanization upon the soil and waterways.
- This Division will focus on activities related to monitoring, and reporting the compliance status and/or violations of the facilities permitted by The North Carolina Department of Environment and Natural Resources (NCDENR) under a Memorandum of Agreement with the NCDENR Division of Water Quality. Further, this program will focus on the protection of recreational waters.
- This Division will focus on activities related developing and implementing natural resource management programs to manage watersheds and protect water quality, including Land

Stewardship of County-owned properties acquired for Open Space preservation.

- This Division will focus on implementing the Watershed Management Plan, and the Comprehensive Groundwater Investigation.
- This Division will collaborate with municipalities on countywide marketing/communications plan to educate and provide outreach to all residents, businesses, and schools.

II. KEY BUSINESS AREAS

The key businesses of the Water Quality Division are arranged into six major program areas: Watershed protection programs including (1) Stormwater and (2) Floodplain Management, (3) Sedimentation and Erosion Control, and (4) Soil and Water Conservation; (5) Groundwater Protection; and (6) Wastewater Management. The following sections define in more detail the specific purpose and major activities of each program.

Watershed Programs

The Stormwater and Floodplain Management, Sediment & Erosion Control, and Soil & Water Conservation programs comprise the County's approach to watershed management. Each has specific functional responsibilities, yet all share a common goal of clean, sustainable surface water. The following summary provides an overview of these watershed management programs.

Stormwater and Floodplain Management Program

National Pollutant Discharge Elimination System (NPDES) Phase II Regulations

- Specifically, Wake County will implement a Storm Water Management Plan for the County-owned municipal separate storm sewer systems (MS4s) in the designated urban areas within the County's jurisdiction. The County has requested that the State (NCDENR) implement the Storm Water Management Plan in the delineated urban areas, except for County-owned MS4s.
- The County will implement the appropriate components of the NPDES Phase II Stormwater Management Plan to assure that discharges authorized under this permit shall be reduced to the maximum extent practicable.

Water Supply Watershed Regulations and Stormwater Control, Management and Watercourse Buffer Regulations

- Review and act on permit applications for preliminary and final subdivision plans, stormwater management plans and construction drawings for conformity to nitrogen reduction, impervious surface coverage limits and riparian buffer requirements. This includes but is not limited to site inspections for conformity to ordinance requirements and approval elements.
- Assist with Board of Adjustment and Planning Board cases by providing technical evaluation and review of site plans and any required calculations or construction drawings. Staff also attends all monthly meetings or is available for consultation.

Floodplain Management

- Review building plans, commercial plans, preliminary and final subdivision plans and construction drawings for conformity to flood regulations.
- Review flood studies for all encroachments into flood hazard areas.
- Issue, track and review flood certification permits in conjunction with Building Permit issuance as appropriate.
- Disseminate FEMA flood information and Wake County Flood Hazard Soils information to the professional community, the public at large and other governmental agencies.
- Assist with Board of Adjustment and Planning Board cases by providing technical evaluation and review of site plans and any required calculations or construction drawings. Staff also attends all monthly meetings or is available for consultation.

Sedimentation and Erosion Control Program

The Sedimentation and Erosion Control Program implements the Erosion and Sediment Control Ordinance outside of the incorporated areas of the county. The Ordinance is also implemented within the incorporated municipalities of Garner, Fuquay-Varina, Morrisville, Knightdale, Wake Forest, Rolesville, Wendell and Zebulon. The Program is responsible for ensuring that commercial, subdivisions or private road construction plans and land disturbance activities comply with the Erosion and Sediment Control Ordinance.

Activities include but are not limited to:

- Perform required plan review duties.
- Conduct field inspection of land disturbing activities to evaluate performance of treatment measures.
- Initiate enforcement proceedings on sites in violation; bring sites into compliance.

Soil and Water Conservation District Program

Land Stewardship Business Plan Implementation

The purpose of this program plan is to identify needs and assess current stewarding practices, develop a comprehensive and integrated approach to land stewardship and identify the resources needed in order to satisfy those initiatives set forth by the Wake County Board of Commissioners' Environmental Stewardship Agenda. The Wake County Soil and Water Conservation (SWC) Program provides direction, leadership, technical expertise, environmental education, and funding support to conserve, preserve, and enhance Wake County's finite natural resources (water quality and quantity, soil, air, plant,

wildlife, forest resources) on private and public lands. The Soil and Water Conservation Program also provides technical and administrative support to the elected Wake Soil and Water Conservation District Board of Supervisors to assist in the Board's implementation of their State mandated services.

The Land Stewardship Program will address the needs of an array of Wake County properties varying in location, size, use and purpose. The program plan will identify, recommend and establish an infrastructure for stewarding this broad spectrum of Wake County lands. Stewardship will address several items including but are not limited to natural resource management, maintenance, monitoring, funding and more. The scope of the properties that this program plan will cover has been separated into various categories. These categories are listed below:

- Permanently Protected Open Space (Fee simple and easements acquisitions)
- Flood Control Structures (Crabtree Creek Project)
- Little River Reservoir Area (Park and Reservoir Lands)
- Regional Parks (LCCP, BJP, OV, CDP, HLCP, YMCP, ATT and SECP)
- School Parks (i.e. - Penny Rd, Salem and others with unmanaged natural areas)
- Landfills (i.e. - North and South Wake)

Ongoing Services Related to Watershed and Land Management

The (SWC) Program provides services to multiple customer groups, internal and external, public and private. These groups include intra and inter-departmental County agencies, State and Federal agencies, non-profit organizations, farm owners and operators, and other private individuals and businesses. The main customer groups are farm owners and other County Departments. The services provided to these groups include stream and wetland assessments, inventory and evaluation of the resources on select properties, development of a site-specific conservation plan for proper land management, more generalized conservation plans for larger land units, funding sources for best management practice installation, identify and help secure funding for land acquisitions, and construction oversight services.

These services have historically been provided in a voluntary, non-regulatory environment based on federal, state, county government, and/or local guidelines, standards, and specifications. More recent services associated with watershed programs will likely involve more regulatory functions as the Section's services are integrated more into the County's Environmental Services Department, Water Quality Division. Technical services are also provided to assist businesses and citizens comply with State mandates, Administrative Code, and legislation.

Groundwater Program

Consistent with the Wake County Environmental Stewardship Agenda, the Groundwater Program is targeted at protecting, preserving, and restoring the quality and quantity of water resources for the

County's private, residential, small business, and community well water systems not regulated by NCDENR, Public Water Supply Section. In order to achieve this goal the program performs the following services:

1. Enforcement of Local and State-mandated laws, regulations, and ordinances pertaining to well installation and water quality, specifically:
 - NC Well Construction Standards 15A NCAC 2C .0100
 - NC Well Contractor Certification Rules 15A NCAC 27 .0100
 - Rules Governing the Protection of Water Supplies 15A NCAC 18A .1700
 - Regulations Governing Well Construction and Groundwater Protection in Wake County
2. Drinking Water Wells
 - New Water Well Construction
 - Permitting
 - Inspection
 - Water Quality Evaluation
 - Existing Water Wells
 - Well Abandonment
 - Permitting
 - Inspection
 - Well Repair Permitting
3. Groundwater Quality
 - Consultation/Investigation/Troubleshooting of Environmental Impacts to Well Water Quality
 - Point source onsite/offsite impacts
 - Water Quality Sampling/Testing/Reporting As Related To Existing Wells
 - Groundwater Monitoring
4. Interdepartmental Services
 - Annual inspection of public swimming pools
 - Radiological monitoring
 - Emergency response (through a MOA with the NCDENR Division of Water Quality)
 - Staffing of emergency shelters
5. Implementation of Comprehensive Groundwater Investigation (CDM, 2003) recommendations
 - Wake County Environmental Monitoring Program
 - Long-term Monitoring Well Network
 - Community-based Process to Develop Principles and Policies for Groundwater Sustainability
 - Study Development Impacts on Surface and Groundwater
 - Public Education Campaign

- Domestic Well Permitting/Testing and Water Quality Data Collection Program and Well Information Management System (IMS) Database
- Countywide Radon Study
- Identification of Areas of Limited Water Availability

Wastewater Management Program

These programs focus on services related to subsurface and surface non-discharge & discharge wastewater disposal systems that treat and return domestic and industrial process wastewater to the environment. It also focuses on ensuring that the residuals (septage pumped from septic tanks) are properly disposed of and treated at land application sites and wastewater treatment plants

- Responsible for permits, inspections and complaints related to subsurface on-site wastewater disposal (i.e., septic tank systems); also includes enforcement of local ordinance for mobile home parks. Soil scientists and engineers responsible for technical support of On-site Wastewater Program, oversight of large community systems and all other wastewater systems that require periodic review, handle consultant proposals, etc.

III. PRIORITIZATION OF SERVICES

The Environmental Services Department has established a prioritization methodology that applies to all aspects of the Water Quality Division's workload. This methodology is applied to each program and affects the way in which each program is defined, developed and implemented. In addition, resources are budgeted and allocated based on this methodology within each program. The following prioritization criteria have been established for developing, implementing and administering the Water Quality Division's programs and policies during the three-year planning period (FY2005 through FY2007).

1. *Why are we performing the service?*
2. *What is the interdependence of this service with other services?*
3. *How extensive is the customer base that the service touches?*
4. *What impact will the service have on the quality of customer service?*
5. *To what customer base does the service foster environmental stewardship?*
6. *What impact does the service have on the public health or safety of the community?*
7. *What impact does the service have on the economy of the community?*
8. *What is the social/political demand for this service?*

Priority assignments were generated using the above criteria, and provided the following ranking of services within the Division. There are three general categories that rank each service area, which are presented in order of decreasing importance.

"Services critical to ensure the public health and quality of the environment, which affect the general population"

1. Watershed Management Programs including surface water protection
2. Onsite Wastewater Services
3. Soil and Water Conservation Programs
4. Well Permitting/Inspection & Groundwater Protection
5. Wastewater Development & Technical Assistance
6. Sediment and Erosion Control Programs
7. Floodplain Programs
8. Stormwater Programs

"Services needed to ensure the public health and environmental quality, which affect portions of the County population"

9. Environmental Education/Environmental Information

"Services that promote public health and environmental quality"

10. Natural Resources Inventory
11. Soil and Water Conservation District Open Space Programs

IV. STATUS REPORT

This section presents an overview of the status of the Water Quality Division and describes the overall conditions and how they influence the Division's business. Following this general Division summary, each major program of the Division also presents a status report so that individual conditions within each program can be reviewed.

Ordinance Changes

As the Division implements its NPDES Phase II permit, an evaluation will be conducted to determine whether or not an ordinance will be needed. There is some expectation that minimally an implementation will be needed to ensure that all of the permit and reporting requirements are fully implemented.

Changes to the County's Stormwater and Watercourse Buffer Regulations are needed to better comply with enabling State regulations and adapt to changes in the building industry. Impervious surface limits continue to challenge the building community as they deal with countywide restrictions and subsequent best management practices.

Changes to the County's Sediment and Erosion Control Ordinance are needed to address building community trends. Sediment and erosion control is becoming a more significant problem on individual lots, which are currently exempted by the County's rules.

Staffing

Staffing vacancies in Onsite Wastewater continue to challenge the Division in meeting their objectives, however, the significant challenges facing the Division in future years are in the areas of Stormwater and Floodplain management as new regulations continue to emerge. It is expected that Stormwater programs will continue to challenge staffing levels in future years.

The County's "Comprehensive Watershed Management Plan" states concerns with respect to the sustainability, functionality, and management of on-site systems. These recommendations included the development of a pilot study of septic tank systems in a priority area, which is nearing completion in this fiscal year, and based upon study findings, development of conclusions/recommendations with respect to management of septic systems. Preliminary findings from the study suggest that appropriate final site landscaping positively impacts the long-term performance of the septic system by minimizing the amount of water that must flow through the soil in the drainfield area. The final landscaping occurs subsequent to the installation and construction inspection of the on-site system, and as a result, is not regularly observed by WDES staff. The implementation of the recommendations will likely impact staffing in future years.

Administration

The transition to the permitting center on the first floor of the Wake County Office Building required shifting responsibilities and splitting of staff between the sixth and the first floors, which has affected the Division's ability to manage telephone volume during peak periods. The Administrative Section continues to be understaffed with these changes and is aggravated by increasing responsibilities to manage increased demand in the permitting sectors. Two temporary employees currently augment this section. It was recently determined by an analysis from GSA that the current office design contributes to the need for additional staff due to the proximity of files to the staff. It is the position of the Division that office renovations are needed immediately to address the operations issues.

Permitting and Inspections Projections

The individual Section Business Plans show that the number of permits issued has been constant for about two years, but projections for housing starts suggest that a 5 percent increase in housing starts in FY 2005-2007 is likely. It is unclear whether or not this projected change in demand will impact the Water Quality Division since these housing starts may or may not involve Onsite systems or individual drinking water wells. The Sediment and Erosion Control Section will be impacted, regardless.

Budget Projections

Spending (midyear projections) continue to be within allocations for FY 2004-2005 with the Division and is expected to exceed targets for salaries since three newly filled FTE positions were originally allocated at band minimum plus ten percent and were filled above midpoint. Budgeted funds from staff vacancies are typically reallocated to temporary employee costs to address demand and there are currently four temporary employees in the Division.

Revenues Projections

The Desired Outcomes identifies more consistent fee recovery for services associated with permitting and inspections functions as a long-range goal for the Division. The following table shows revenues collected and the percentage to which it applies to the cost of the service for the main business sectors in the Division. The table shows that the range of fees supporting a particular area ranges from about 4 to over 100 percent of its budget.

Table - Allocation of Water Quality Division Revenues, by Section

Water Quality Division Section	Projected Revenue 2004-2005 (\$)	Projected Revenue 2005-2006 (\$)	Target Cost Recovery 2005-2006 (%)	Projected Revenue 2006-2007 (\$)	Target Cost Recovery 2006-2007 (%)
Administration	\$0.00	\$0.00	0%	\$0.00	10%
Soil & Water Conservation	\$13,000	\$13,000	5%	\$13,000	5%
Wells & Groundwater	\$245,150	\$318,275	100%	\$319,275	100%
Migrant Labor Camp Inspections	\$0.00	\$0.00	0%	\$0.00	0%
Mobile Home Park Inspections	\$0.00	\$22,475	100%	\$22,475	100%
Wastewater & Technical Assistance Incl. DWQ Monitoring	\$638,389	\$1,117,375	85%	\$1,118,475	85%
Sediment & Erosion Control	\$400,097	\$383,375	100%	\$398,375	100%
Stormwater & Floodplain Programs	\$7,450	\$51,825	20%	\$41,750	100%
Totals	\$1,291,086.	\$1,893,325.	NA	\$1,900,350.	NA

Demand Analysis

For a detailed description of the Division's demand for services, please refer to the status report for each program. In general, the conditions affecting the Division's business are related to the building industry and the Division's ability to address the effects of rapid urbanization. The primary drivers of demand for services are:

Population and Housing Starts (Christina, this section is really outdated)

The total county population drives the need for water quality services. The NC Office of State Planning estimates population in the County will reach 750,000 in 2005 and nearly 800,000 by 2007. These estimates represent a 10.5% and a 17.7% increase in the 2002 population, respectively. In another survey, Wake County is projected to increase in population by an annual rate of 3.32 % in the 2005, 3.24% in the 2006, 3.17% in 2007 (Informed Decisions, Inc 2001 Report). These surveys point to continued demand in all of the Division's business sectors. While it is imperative that the Division collaborates with municipalities in determining the type and level of services that are anticipated from the County, it is apparent that a significant increase in services will be required over the next three years.

Customer Service

The Environmental Services Department priority survey identified that our customers generally represent a small segment of the population that has special needs that are addressed by this service, but the outcome of not doing the service generally affects everyone in Wake County. So although our customer base is small, the outcome of the service affects the larger population. The Water Quality Division seeks to serve all Wake County citizens in the services that we provide. The Division also intends to provide customer service in all areas where there are water quality needs. However, the Division considers the Homebuilder's Association and the home-building community as primary customers and aligns its permitting and inspection businesses around their needs. The Division will need to continue to focus on these priorities as services are realigned due to reprioritization of programs, etc., in an attempt to meet all customer needs.

Effects from Increasing Urbanization

Between 1990 and 2000, the population of Wake County grew by 201,535, a rise of over 47 percent. Much of the growth in the past decade has occurred outside of municipal boundaries, in areas where municipal water and sanitary sewer service are not provided. Almost one-quarter of the County's residents rely upon groundwater for their water supply. Recent Wake County environmental initiatives, including the 1998 Comprehensive Water/Sewer Plan (CH2M Hill, 1998), the Land Use Plan, and the Comprehensive Watershed Management Plan (CH2M Hill, 2003) have emphasized the importance of groundwater as a crucial current and future water supply, primarily to those areas of the County where the extension of water and sanitary sewer service is not planned, such as the Non-Urban Areas of the Water Supply Watersheds.

Change in land use from farm/forest to more urban uses causes an increase in runoff storm events on average of about 30%, resulting in "flashier" streams. This results in more localized flooding which will cause an increase in drainage complaints. The increased stormwater runoff causes greater damage to streambeds due to increased flows.

The Comprehensive Groundwater Investigation draws a connection between increased urbanization and stream flow. The increases impervious paving from development and highway construction can affect groundwater recharge, thus affection stream flow and ultimately steam quality. This is evidenced as fish kills, which have been on the increase. Another outcome is the deterioration in water quality in recreational areas attributable to reduced stream flow. This has been increasing over the past two years.

Sampling is showing increased incidences of nitrates and enterococcus bacteria. The outcome could be more exposures to infectious agents and an increase in illness of those exposed.

An increasing population, expected to double in 20 to 30 years, will require additional efforts and resources to educate them about the problems and solutions regarding their environment. There is currently no staff engaged in these areas.

Factors Causing Fluctuation in Demand

Condition of the Economy

Economic indicators suggest that the economy will rebound in FY2005-2006. This will support projections by the Home Builder's Association for growth in the permitting and inspections areas. With improvements in the economy, changes in the rural land use will result in fewer row crop operations but more intense land uses such as horse and cattle, turf-grass, and nursery operations. These operations are similar to increases in urbanization, such as groundwater impacts, storm flows are usually increased and stormwater contaminant impacts are more likely

Changing Focus and Priorities of Elected Officials and County Management

There are currently no factors that would suggest that the priorities of the County have changed from the previous fiscal year.

Changes to State and Federal Regulations

NPDES Phase II Program Overview - Externally, Phase II of the National Pollution Discharge Elimination System (NPDES Phase II) regulations will have a large impact on service delivery. It requires that all county owned facilities with more than one building and having a stormwater sewer system which discharges to a defined low point or another culvert is considered an MS4 (Small Municipal Separate Storm Sewer) and is subject to the Phase II regulation, which will require Wake County to inventory and monitor these properties for compliance.

Potentially, the demands from the implementation of the Phase II Stormwater Management Program may benefit long term from a dedicated funding source for its implementation. Significant Division staff time will be needed to develop the utility. This initiative will also involve other County Departments (notably Budget Office, Planning, Community Services, Finance, Revenue, GIS, County Attorney, etc.).

Hazard Mitigation Program Overview

Development and implementation of a Hazard Mitigation Plan is a Federal and State mandated requirement (an externally forced initiative) for members of the National Flood Insurance Program to remain eligible for Disaster Relief monies. The Draft Plan to go to the State during January 2004 is almost completed. Still to be done is a report on flood certifications issued in FEMA areas all the way back to 1993, which will take approximately two working days to complete. The plan must be adopted by November 2004. Additionally, this will require County Ordinance changes

proposed in the Hazard Mitigation Plan (FY 2004-2005), and assist with implementation and reporting requirements.

Well Installation Ordinance Changes

Changes to “Regulations Governing Well Construction and Groundwater Protection in Wake County” were presented to the Board of Commissioners for approval in September 2003, and primarily affected the evaluation of well water quality through an expanded analytical parameter list and assurance that all new permitted wells would be sampled. After a year of implementation, it is clear that the additional Ordinance requirements have placed additional burden on Well staff and that additional staffing (approximately 1,000 man-hours/yr) are being requested in the FY 2005-2006 Budget.

Public Education/Awareness

The Staff Supervisors are currently engaged in the implementation of the County’s Environmental Education and Information Business Plan. As recommendations from this plan are developed, additional demands (yet to be quantified) will be placed on these managers.

A. STORMWATER AND FLOODPLAIN MANAGEMENT PROGRAM

Overview

The development of rural land increases impervious surfaces, which typically increase the volume of stormwater runoff in a watershed. Increased stormwater volumes from urbanization can result in downstream flooding, accelerate erosion and the degradation of streams by increasing sedimentation and carrying pollutants into water bodies, adversely affecting water quality.

Wake County is rapidly urbanizing and this trend is expected to continue. According to the North Carolina State Demographer’s 2003 population estimates, Wake County had an increase of more than 65,500 residents between July 1, 2000 and July 1, 2003. This represents an average growth rate of 3.4 percent annually. Wake County ranked second among the most populous counties in North Carolina in 2003 and first among N. C. counties with the largest population increase since April of 2000.¹

The County’s stormwater and floodplain management program are essential tools in balancing the accommodation of new growth and development with the desired goals of preserving, protecting and restoring sensitive natural resources.

Division priorities include compliance with state and federal mandates, administration of County ordinances and policy implementation and collaboration with other units of local

¹ Source: North Carolina State Demographer

government to cost effectively address stormwater management issues. These are described below:

Regulatory Mandates

Wake County must ensure compliance with the following regulatory mandates:

1. Flood Hazard Area Regulations, Section 1-1-26 of the Wake County Zoning Ordinance;
2. General Statutes 77-13 and 14 and the North Carolina Flood Act of 2000 Sessions Law 2000-150;
3. National Flood Insurance Program (NFIP) [44 CFR 60.03(d) and (e)];
4. NPDES (National Pollution Discharge Elimination System) Phase II Section of the Federal Clean Water Act;
5. Water Supply Watershed Regulations, Section 1-1-31 of the Wake County Zoning Ordinance and
6. Wake County Stormwater Control Management and Watercourse Buffers Regulations.

Amendments to Stormwater Control Management and Watercourse Buffer Regulations will clarify the ordinance's intent and applicability.

NPDES Phase II (new in FY 2005-2006)

Wake County is required under the NPDES (National Pollution Discharge Elimination System) Phase II regulations to obtain a Phase II Stormwater permit from the N. C. Department of Environment and Natural Resources. As part of the permit application, Wake County was required to submit a Stormwater Management Plan aimed at reducing pollutants discharged from its municipal separate storm sewer systems (MS4s). Wake County has opted to have the State implement its Stormwater Program in the areas where Phase II is applicable with the exception of County owned or operated MS4s. This is the minimum level of compliance required for a Phase II permit.

Implementation of the Stormwater Plan in accordance with the Phase II permit for county-owned or operated MS4s will result in an increased workload for the following County Departments: Environmental Services, Planning, General Services, and Community Services. The Water Quality (WQ) Division will be responsible for the coordination of permit implementation with the various departments and the compilation of compliance reports regarding the following six minimum measures required to be addressed under the plan:

1. Public Education and Outreach (*Impacts Division's Work Plan*)
2. Public Involvement and Participation (*Impacts Division's Work Plan*)

3. Illicit Discharge Detection & Elimination (*Partial implementation impacts Division's Work Plan*). WQ will develop an inventory of Wake County's storm sewer systems that may generate polluted stormwater runoff. Development of policies and procedures for illicit discharge and detection procedures is a County responsibility under the permit, but is not an obligation of the Water Quality Division.
4. Construction Site Runoff Controls (*May impact Division's Work Plan*). Wake County provides sedimentation and erosion control services within its jurisdiction and to eight of the twelve municipalities in Wake County. The State of North Carolina provides sedimentation and erosion control services to County construction projects.
5. Post Construction Site Runoff Controls - (*Impacts Division's Work Plan*)
6. Pollution Prevention and Good housekeeping (*May impact Division's Work Plan if the other County Departments experience difficulty in implementing their respective Phase II programs*)

It is anticipated that the Water Quality Division will be responsible for updating the Stormwater Plan on an annual basis and for compiling and submitting written reports on compliance with the Phase II permit to the State. (*Impacts Division's Work Plan*).

Floodplain Management

Floodplain management inquiries have increased 4.7% from 1432 last year to approximately 1504 this year, presumably due to the 2003 Zoning Ordinance amendment (which prohibits fill and construction in the FEMA (Federal Emergency Management Agency) floodplain), as well as the arrival of the new preliminary FEMA FIRM (Flood Insurance Rate Maps) for the Neuse River Basin. The updated FIRM maps will provide more accurate information on flood risk and as a result, more properties may be subject to floodplain regulations.

An increase in the number of floodplain related inquiries and flood zone determinations is expected with the delivery the new preliminary FEMA FIRM Maps for the Cape Fear River Basin in January 2005 and once the maps for both the Neuse and Cape Fear River Basins become official. Under the Wake County Hazard Mitigation Plan, Floodplain Management is committed to review all of the FEMA maps, for the purpose of identification and notification of all property owners with floodplain on their property. To date, County staff has reviewed all of the preliminary Neuse River FIRM Maps and provided comments to State on these maps.

The Floodplain Remapping is a major initiative undertaken by the State to provide the first update of FEMA's FIRM in

_recent years. The remapping has required the Floodplain Manager's involvement in the Cooperating Technical State/FEMA Remapping Committee, the Raleigh Hazard Mitigation Plan Stakeholders Group as well as the Wake County Hazard Mitigation Stakeholders Group.

Stormwater Management

Stormwater review of commercial and subdivision sites is a routine activity. Time spent reviewing complex site plans is expected to increase as more environmentally-constrained land is developed and the number of stormwater management plans submitted for individual subdivision lots increases. This trend has become more apparent in the 1st and 2nd quarter of FY 2004-2005 (period of 7/8/04 to 10/25/04), with 6 of 7 submissions being single-family residences. In past years, the Stormwater Manager has been responsible for attending all stormwater related meetings. Attendance at these meetings has been evaluated and assignments will be made to distribute meeting obligations among the appropriate Water Quality Division staff. Examples of these committees include: Cape Fear River Assembly, Raleigh Stormwater Utility, Jordan Lake TMDL (Total Maximum Daily Load) Rule Committee, Neuse River Rules Clean Water Education Partnership, Upper and Lower Neuse River Basin Associations, and the Environmental Services Water Quality Committee.

Countywide Stormwater Management Evaluation

Step I of a three step process is underway involving the thirteen units of local governments in Wake County intended to identify opportunities for collaboration to cost-effectively address regional stormwater management issues. In Step I, the County-wide Stormwater Management Evaluation, will identify opportunities to meet the minimum requirements of the NPDES Phase II program and other regulatory mandates, as well as any optional programs that may achieve other stormwater-related goals if selected by future stakeholders, through a common, collaborative program. Step I will be completed by June 2005.

In Step II, scheduled for implementation in FY '05 -'06, representatives of the local governments that agree to participate in some capacity in the collective program will identify specific program elements and funding commitments for the collective program, and will execute Interlocal Agreements to implement the proposed program.

Step III will involve the actual development of the program as recommended in Step II, including specific program institutional structures, staffing plans, budget projections, and the identification and the development of additional sources of revenue to fund the selected programs. It should be understood that the costs of Step III would depend directly on the stormwater programs defined during Step II and the number of municipalities comprising that program.

Demand Analysis

Factors creating fluctuations in service demand were described under the Status Report section above and include the following:

1. Trend toward rapid urbanization
2. New regulatory mandates, specifically NPDES II
3. Revisions needed to existing ordinances
4. Review of preliminary FEMA FIRM maps - Neuse River Basin
5. Increased number of floodplain inquires
6. Review of preliminary FEMA FIRM maps - Cape Fear Basin
7. Increase submission of stormwater plans for individual residential lots
8. Countywide Stormwater Management Evaluation

Of the items list above, NPDES Phase II will have the greatest impact on service demand. After analysis of the demand generated by our obligations under the Phase II permit, it is believed that these can be meet with existing staff levels.

Given the increase in the workload of duties assigned to the Stormwater Manager, this position was analyzed in detail to determine if an expansion request was warranted. Below is a summary of activities and the amount of time the Stormwater Manager is projected to spend on each activity throughout the current fiscal year of 2004-2005.

Estimated Service Demand FY 2004-2005 - Stormwater Manager

1. Stormwater Studies

- 3 % of estimated FY 2004-2005 workload.

2. Flood Certifications

- 6 % of estimated FY 2004-2005 workload.

3. Flood Studies

- 4% of estimated FY 2004-2005 workload.

4. Additional Tasks

- 10 % of estimated FY 2004-2005 workload.
 - i. DRS Reviews. This is the most time consuming activity of the additional tasks, consuming an estimated 6% of the Manager's time in FY 2004-2005.
 - ii. Neuse Rule Compliance.
 - iii. Water Supply Watershed Rule Compliance.
 - iv. NPDES Phase II.

5. Consultations

- Consultations, both in person and on the phone will consume an estimated 32% of the FY 2004-2005 workload.
 - i. Phone - 23%
 - ii. Appointments or walk-ins - 5%

6. Meetings, Conferences, Continuing Education and Training

- Meetings, conferences, continuing education and training are the most time consuming activities of the Manager's tasks, consuming an estimated 34% of the Manager's time in FY 2004-2005.

7. Administrative Tasks

- Administrative tasks such as division and departmental meetings, and business plan and budget development consume approximately 16% of the Manager's time.

FY 2005-2006 Reallocation of Work Items

The Stormwater & Floodplain Manager's work items described previously were next analyzed and prioritized in order to determine where streamlining, reduction in service (if appropriate) or reassignment of duties that could be used to eliminate the need for an expansion request. The table below reflects the new allocation of work items made after such adjustments, showing how duties will be reallocated among staff where reallocation is possible and appropriate.

Figure I-1: FY 2005-2006 Reallocation of Work Items

Special Projects	FY 2004 -2005 Current Allocation	FY 2005 - 2006 Proposed Staff Allocation	FY 2005 -2006 Staff Backup Support Team
Collective Stormwater Management Evaluation	Stormwater & Floodplain Mgr.	Project Mgr.	Project Mgrs., Watershed Mgr. Admin. Services Coordinator
FEMA Floodplain Remapping	Stormwater & Floodplain Mgr.	Stormwater & Floodplain Mgr..	Planning Dept. staff
SWCBB amendments	Stormwater & Floodplain Mgr.	Division Director	Project Mgr. Watershed Mgr. Floodplain Mgr.
UDO	Stormwater & Floodplain Mgr.	Project Mgr.	Project Mgr., Planner III, Floodplain Mgr.
Hazard Mitigation	Stormwater & Floodplain Mgr.	Watershed Mgr.	Soil & Water Conservation staff
Routine Work Items			
Administration of Stormwater regulations	Stormwater & Floodplain Mgr.	Stormwater & Floodplain Mgr.	Envr. Health Specialist, Soil & Erosion Control Staff

Special Projects	FY 2004 -20005 Current Allocati on	FY 2005 - 2006 Proposed Staff Allocation	FY 2005 -2006 Staff Backup Support Team
Flood Certifications	Stormwater & Floodplain Mgr.	Stormwater & Floodplain Mgr.	Envr. Health Specialist
Flood studies	Stormwater & Floodplain Mgr.	Stormwater & Floodplain Mgr.	Envr. Health Specialist
Annual update of Stormwater Management Plan	Stormwater & Floodplain Mgr.	Project Mgr.	Project Mgr. Floodplain Mgr. S & E Staff, various Department
Committees			
Upper Neuse River Assoc	Stormwater & Floodplain Mgr.	Project Mgr.	
DRS	Stormwater & Floodplain Mgr.	Stormwater & Floodplain Mgr.	
Jordan Lake TMDL	Stormwater & Floodplain Mgr.	Stormwater & Floodplain Mgr.	WQ staff
Cape Fear Hydro-model	Stormwater & Floodplain Mgr.	Stormwater & Floodplain Mgr.	
Board of Adjustment	Stormwater & Floodplain Mgr.	Discontinue attendance @ monthly meetings.	As needed
National Assoc. of Floodplain & Stormwater Managing Agencies	Stormwater & Floodplain Mgr.	Division Director	
NC Assoc. CF Managers - Annual Conf.	Stormwater & Floodplain Mgr.	Stormwater & Floodplain Mgr.	
NC Assoc. CF Managers - Brd. Mtgs.	Stormwater & Floodplain Mgr.	Stormwater & Floodplain Mgr.	
FEMA/NC Tech St. Remapping Brd.	Stormwater &	Watershed Mgr.	

Special Projects	FY 2004 -20005 Current Allocati on	FY 2005 - 2006 Proposed Staff Allocation	FY 2005 -2006 Staff Backup Support Team
	Floodpla in Mgr.		
Hazard Mitigation	Stormwat er & Floodpla in Mgr.	Watershed Mgr.	Soil & water Conservation Staff
Richland Creek Watershed	Stormwat er & Floodpla in Mgr.	Project Mgr.	
Swift Creek Protected Area	Stormwat er & Floodpla in Mgr.	Conservati onist	
Stormwater Managers Focus Group	Stormwat er & Floodpla in Mgr.	Stormwater & Floodplain Mgr.	
Water Quality Committee	Stormwat er & Floodpla in Mgr.	WQ Staff as assigned	
Envr. Services Comm.	Stormwat er & Floodpla in Mgr.	WQ Staff as assigned	

B. SEDIMENT AND EROSION CONTROL PROGRAM

Overview

The Sediment and Erosion Control (S&EC) Program implements the plan review and inspection for all non-government construction projects of 1-acre or more for the unincorporated areas of Wake County and for the municipalities of Fuquay-Varina, Garner, Knightdale, Morrisville, Rolesville, Wake Forest, Wendell, and Zebulon. Thirty-eight percent (38%) of the projects approved in FY 04-05 were in unincorporated areas of Wake County and sixty-two percent (62%) were in the jurisdiction of the eight municipalities listed above. The program employs seven full-time and one part-time Environmental Engineer/Consultants.

In addition to the responsibilities described above, other duties of the engineers include investigating drainage complaints, addressing citizens' inquiries, and preparing preliminary engineering reports for projects requesting approval from the Wake County Development Review Staff.

In previous fiscal years, the engineers were not able to visit all construction sites on a timely basis. A high work volume, inadequate staffing levels, and an inefficient assignment method for site inspections contributed to this problem. However, with the potential loss of the Town of Morrisville's program in 2005, an appropriate and fully trained staff, and basing future site inspections assignments on development clusters, engineers should be able to inspect ninety-percent (90%) of the projects in a timely manner for FY 2005-2006. This percentage should increase to 95% in FY 2006-2007.

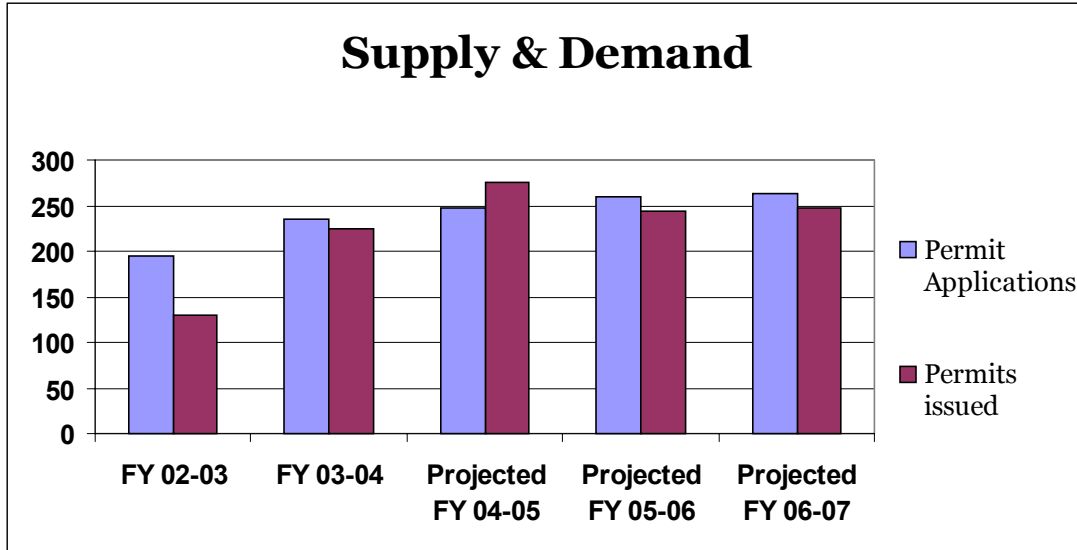
During the previous fiscal year, the Wake County S&EC Program was 100% self-supporting, generating more in revenue than it did in expenditures. However, this was primarily due to about \$66,000 collected in fines, which is an unusually high amount and should not be used in future revenue projections.

Demand Analysis

Permits

The program manages an average of 500 active projects per month. Demand for new projects is based on the housing market, the need for commercial expansions, and the availability of suitable land for development. Construction plans submitted for our review increased 8% from FY 2002-2003 to FY 2003-2004 and the number of permits issued during that same period increased 57.6%. The projected increase in FY 2004-2005 and FY 2005-2006 is 5%. This demand could be considerably less with the potential loss of the Town of Morrisville's program in FY 2005-2006. The Town of Morrisville has applied to manage their S&EC program, which requires approval by the State of North Carolina. Projects approved for the Town of Morrisville represented 7% of our total projects in the first half of FY 2004-2005 and 8% during FY 2003-2004. The loss of Morrisville's program will result in a loss of approximately \$72,500.00 per year in fees based on FY 2003-2004 revenues. The Supply & Demand chart below demonstrates the continually increasing numbers of land disturbing permits applied for and issued over time.

Figure II-1: Actual and Projected Work Supply & Demand over Time

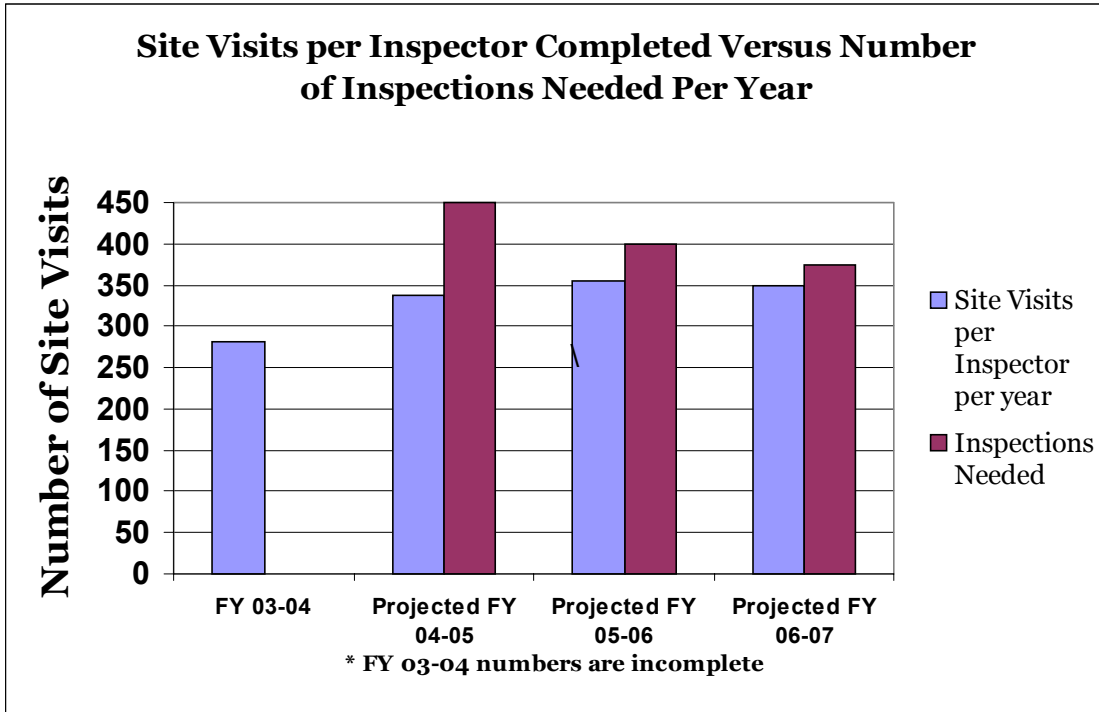


Inspections

At the present time, not all active projects are being inspected on a monthly basis. The main causes for this are backlog created by previous vacancies in this program and the unequal distribution of workload per engineer. In the past, some engineers had a much greater workload than others did, as their area boundaries had not changed in 3 years, despite growth changes within the county. Another factor contributing to this problem are drainage complaints. In addition to conducting inspections, staff engineers also address drainage complaints and citizens' inquiries within the county's jurisdiction. Drainage complaints are considered a top priority when received, and contribute to inspections not being completed on a monthly basis. These complaints consume the greatest amount of time during inclement weather.

Nevertheless, the Program is moving in a positive direction towards achieving its goal of inspecting all active projects on a monthly basis. The S&EC Program is now fully staffed and trained. Work boundaries have been redrawn to reflect the changing growth patterns in Wake County, reducing the total number of active projects each engineer is responsible for each month. Furthermore, the Program will base future site inspections on development clusters, making for a more efficient system of inspections by allowing the engineer to inspect more projects per day. It is projected that these two changes will allow for 90% of the projects to be inspected in a timely manner in FY 2005-2006. Finally, if the Town of Morrisville is awarded their own S&EC program, the number of projects to be inspected is projected to decrease 8-10%, further decreasing the demand on engineers' time. Figure II-2 shows how the number of inspections completed is expected to approach the number of inspections needed over the next two fiscal years.

Figure II-2: Site Visits per Inspector Completed Versus Inspections Needed

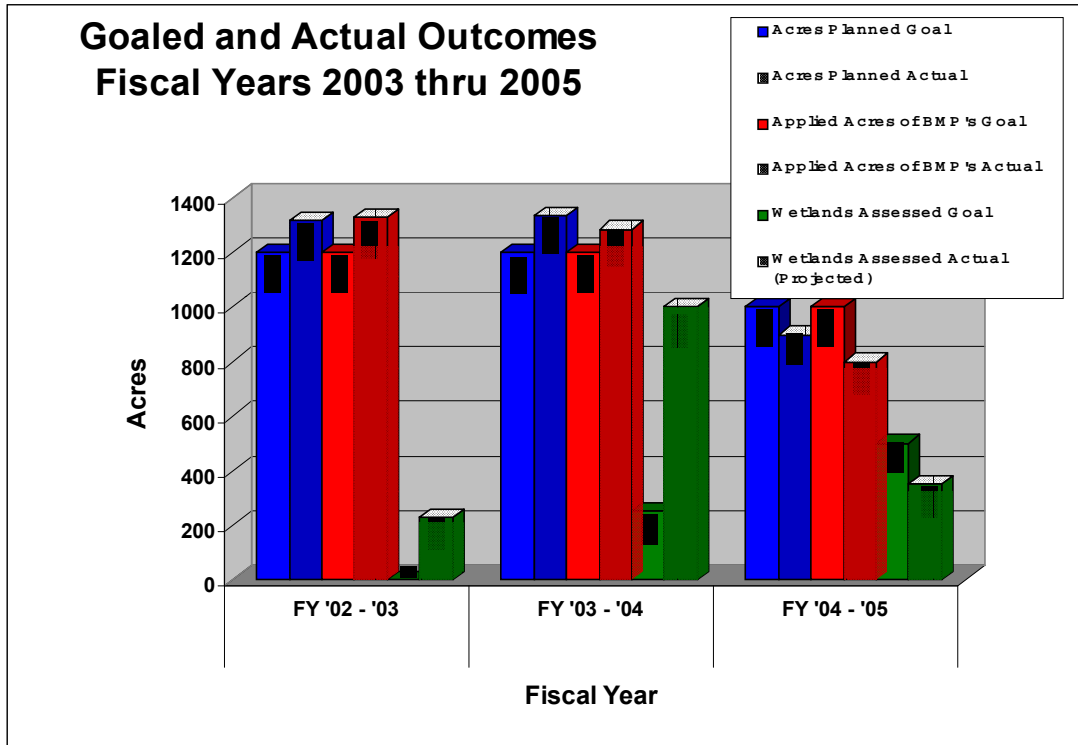


C. SOIL AND WATER CONSERVATION PROGRAM

Overview

While maintaining its traditional programs, a substantial number of additional Soil and Water Conservation (S&WC) programs have been added over the last two to four years. Additional duties include stream, wetland, and riparian buffer projects, farmland preservation, assessments for the County’s Open Space Program, helping find and secure additional funding sources for open space acquisitions, and providing assessments and forwarding restoration projects to third parties. As shown in Figure III-1, in FY 2002-2004, output levels exceeded program goals. However, because the workload continues to increase but staffing levels have decreased, Figure III-1 also shows that output levels for FY 2004-2005 are expected to decrease, falling short of goals.

Figure III-1: FY 2003-2005 Program Goals and Outcomes



Performance Evaluation

Figures III-2 and III-3 demonstrate that per FTE performance of the S&WC Program has varied little over time. These figures suggest that peak efficiency levels may have been reached. As demand continues to grow for these services, the current level of staff will not be able to accommodate the increased demand.

Figure III-2: Watershed Management Activities Performed per FTE

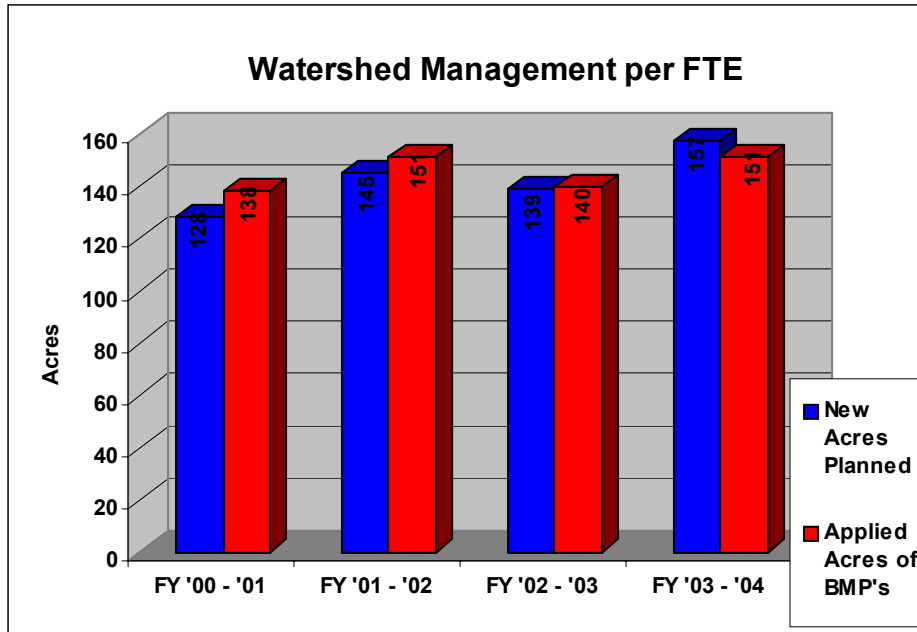
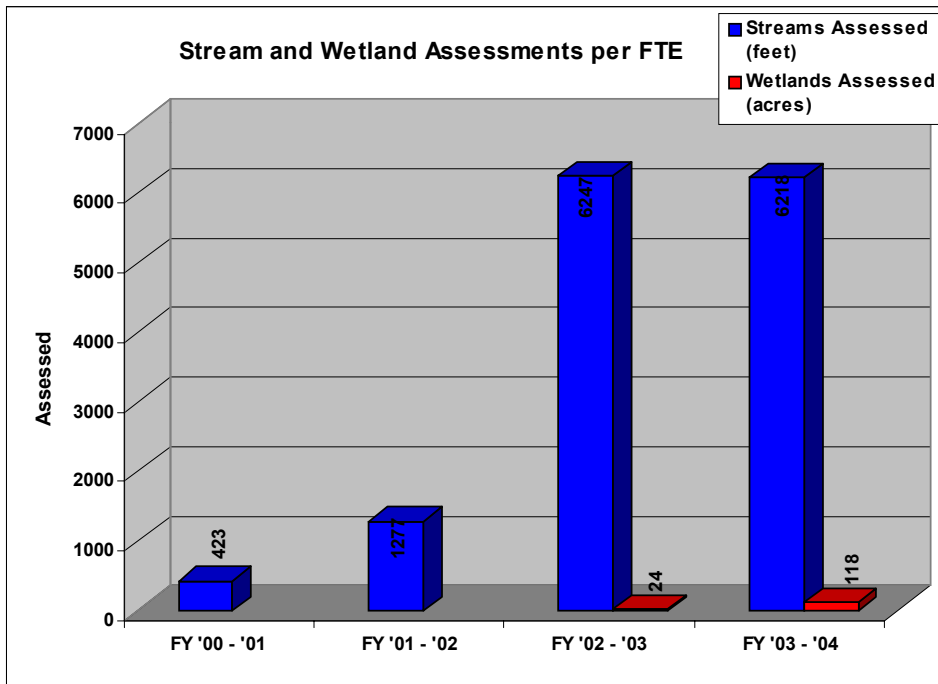


Figure III-3: Stream and Wetland Assessments Performed per FTE



Funding Brought Into the County per FTE. This refers to the dollars that come into the County for restoration and preservation projects, and the implementation of best management practices on impaired lands from cooperating agencies to which the S&WC Program has provided technical assistance and information with the sole purpose of obtaining partnership funding. In order to determine how effective the S&WC Program is at covering the costs of

its employees, these funding dollars received are evaluated on a per FTE basis. Figure III-4 shows how per FTE funding has grown dramatically over the previous two fiscal years. It is anticipated that these numbers will be even more dramatic for FY 2004-2005.

Figure III-3: Stream and Wetland Assessments Performed per FTE

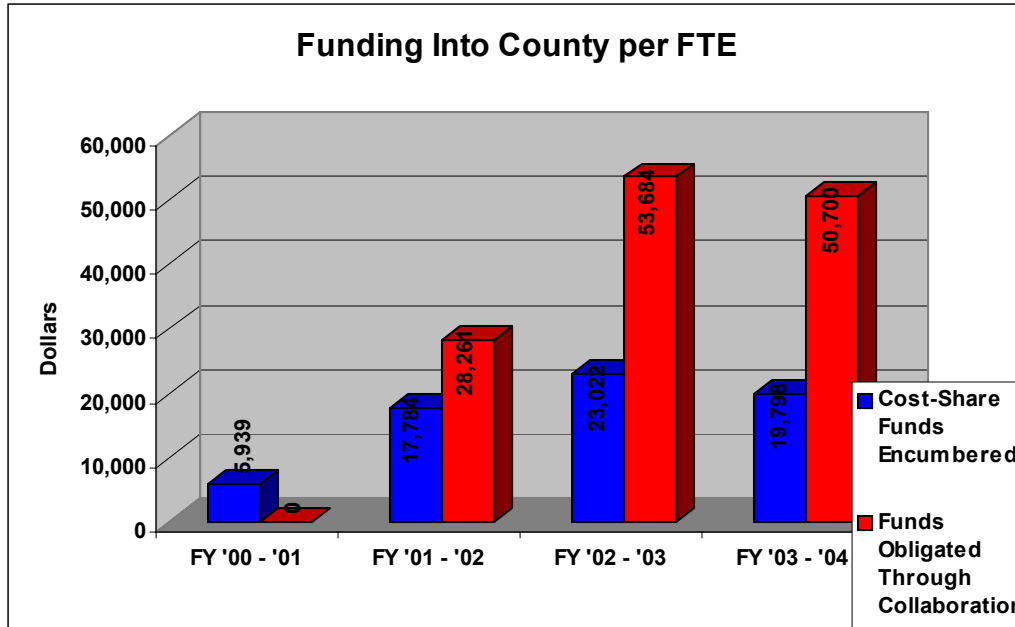


Figure III-4: Funding Brought Into the County per FTE

Demand Analysis

This subsection explains how four factors will impact demand for Soil and Water Conservation services:

- The intent to issue \$26,000,000 in Open Space Bonds
- The ability to better leverage County dollars with private, state, and federal funds
- The tobacco buyout
- The environmental education and environmental information initiatives

The Intent to Issue \$26,000,000 in Open Space Bonds

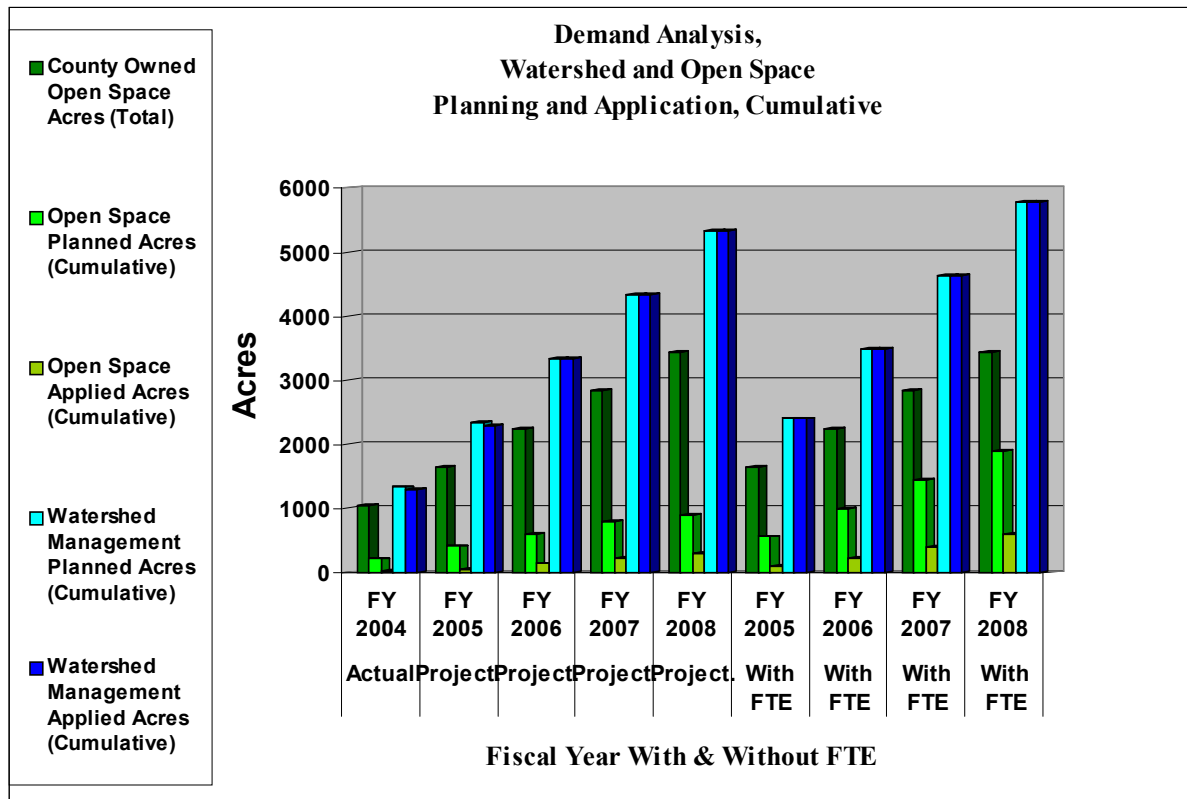
On November 2nd, 2004, voters gave the County approval to issue \$26,000,000 in open space bonds. This was a 73 percent increase over the \$15,000,000 bond amount that voters approved in 2000. This planned increase in open-space purchases will increase the need for Soil and Water Conservation to develop natural-resource management plans for open-space properties.

The bond amount will translate to annual open-space purchases of approximately 1,000 acres per year, according to the Parks, Recreation, and Open Space Division. With current staffing levels, Soil and Water Conservation can annually assess only about 250 acres of open space, or 25 percent annually of County’s open-space acreage-- leaving 75 percent per year un-assessed. Currently 750 acres of the County’s open space properties do not have a viable management plan. This number will increase to 2250 acres under the current management

scheme. This leaves the open space properties vulnerable to tree disease, increases potential for uncontrolled fires, and generally lowers the value of the property.

Soil and Water Conservation will, through the annual budget process, request a Conservation Technician who will devote one-half time to natural resource management plans for open spaces. This half FTE would allow natural resource assessments for open-space acreage to increase from about 25 percent to about 33 percent in 2006 and 55 percent in 2008. The following chart, Figure III-5, demonstrates how demand for Soil and Water Conservation services will be affected by the addition of an FTE. The two lightest-green bars in the chart compare acreages that would have natural resource assessments prepared for them-- with versus without the half FTE.

Figure III-5: Current and Projected Demand for Watershed and Open Space Planning and Application



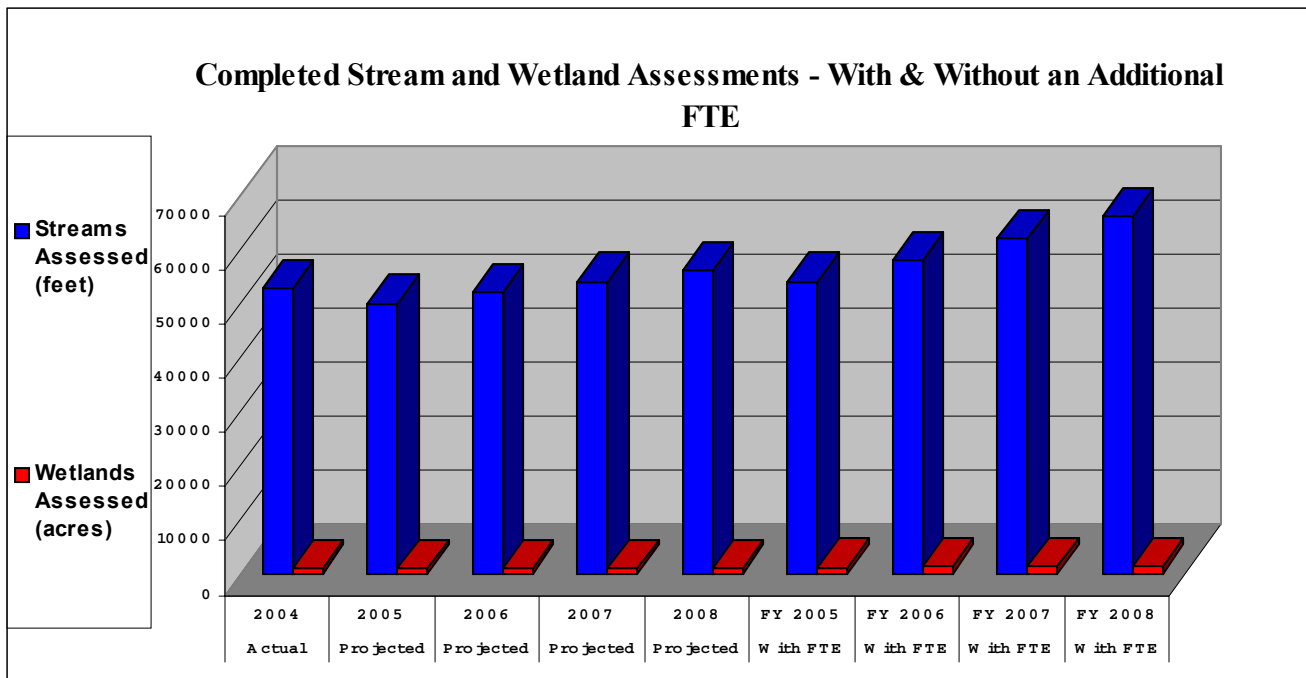
The Ability to Better Leverage County Dollars With Private, State, and Federal Funds

The 2003 Wake County Comprehensive Watershed Management Plan recommended stream and wetland restorations as a strategy for protecting water quality. Currently the County devotes (in staff and supplies) fewer than \$50,000 annually to restorations. With fewer than \$50,000, Soil and Water Conservation was able to complete assessments of key streams and wetlands, then based on these assessments convince the State to devote approximately \$450,000 to restoring streams and wetlands in FY 2004-2005. The County’s match was 10

percent for staff-time and supplies, while the State’s match was 90 percent to complete restorations. Essentially, the State paid 90 percent of the bill to implement a *County* plan.

The leveraging is so strong here – for every dollar the County spends, the State spends approximately nine (9) dollars – the time is right to take better advantage of this funding stream to accelerate stream and wetland restorations recommended in the Watershed Management Plan. Soil and Water Conservation staff calculates that a half FTE (Conservation Technician) devoted to restoration and preservation projects and watershed management would boost restoration assessments by 18 percent and annually boost State and Federal funds by approximately \$350,000 for implementing restorations. Figure III-6 demonstrates how completed assessments would increase with the addition of one half FTE dedicated to restoration and preservation projects and watershed management.

Figure III-6: Current and Projected Completed Stream and Wetland Assessments



The following two pie charts show additional funds that could be secured from multiple sources to implement conservation practices. The chart on the left shows funding that could be secured with current staffing levels. The chart on the right shows funding that could be secured with the added Conservation Technician-- an increase of over \$800,000 total annually for restorations and other conservation practices (inclusive of the \$350,000 mentioned above).

Figure III-7: Current Funding Levels

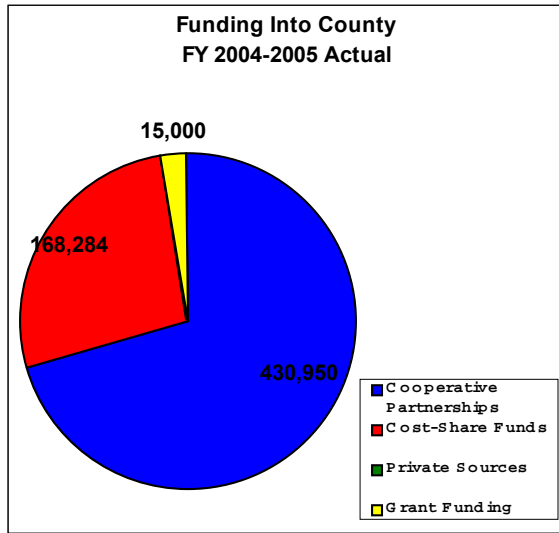
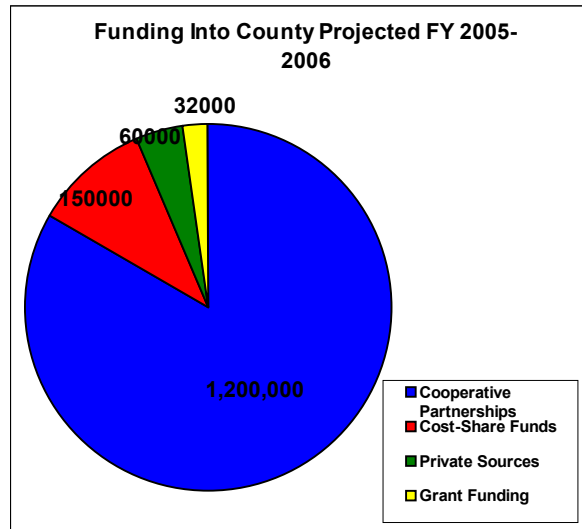


Figure III-8: Funding w/ FTE Addition



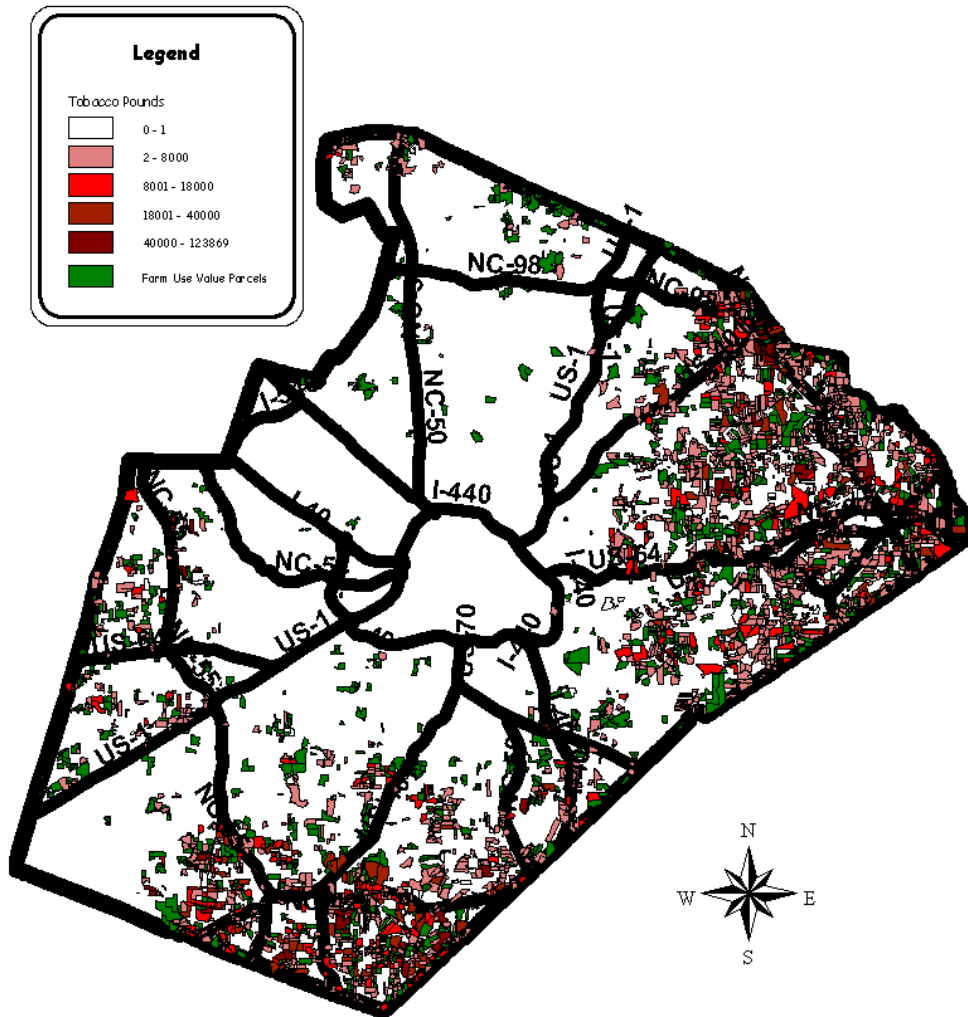
The category described as “Cooperative Funding” includes new funding partnerships formed in the last three years. The other categories are more traditional partnerships such as the State Agricultural Cost-Share Program and the Federal Environmental Quality Improvement Program. The majority of funding that can be secured is anticipated in stream restoration and preservation projects. Greater than a 275% increase in funding is anticipated in this area.

Tobacco Buyout

The tobacco buyout will affect operations over the next two to ten years. Approximately 80% of Wake County farms receiving the Farm Use Deferment have a tobacco allotment. (Please see Figure III-9 for number and distribution of farms with tobacco allotments.) It is anticipated that the buyout will spur a shift of some farms from tobacco to forestry, livestock operations, and more intensive row cropping such as vegetables and specialty crops. With this shift in operations, there will be greater impacts on water quality as livestock operations and more intensive cropping practices will result in higher nutrient, pesticide, and sedimentation loading to our watercourses. Other environmental health concerns will increase as well such as e-coli, Guardia, and other bacteriological and viral concerns due to the increase in waste generation.

These shifts in production will result in a surge of requests for Soil and Water Conservation assistance for more non-traditional planning and implementation activities. The requests will also result in more intensive planning and application practices as livestock and specialty crops will require more involved procedures. Surveying, GPS and GIS technologies, nutrient budgeting and management, composting, and structural practices will all increase substantially due to these shifts. The largest occurrence of these increases will be felt in the Little River Watershed, a proposed future reservoir for County residents.

Figure III-9: Tobacco Allotments and Farm Use Deferment Parcels



Farm Use Deferment Parcels and Tobacco Allotments by Pounds

Environmental Education and Environmental Information Initiatives

In the last few years, an unprecedented demand has been placed on S&WC’s environmental education and environmental information (EE-EI) programs and services. The Wake County Environmental Stewardship Agenda (ESA) states that its vision and the goals of its five Environmental Plans—Watershed Management, Open Space, Air Quality, Environmental Health, and Solid Waste—will only be achieved with an EE-EI strategy that works in concert with the County’s technical strategy and environmental policies. EE-EI is critical in advancing environmental literacy, initiating behavior change, and mobilizing a supportive public to take environmental stewardship action.

An EE-EI Business Plan has been developed to coordinate and implement the EE-EI recommendations in each of these five ESA Plans. Water quality and environmental health are two integral and interconnected environmental issues in each Plan. Each Plan's EE-EI recommendations must be addressed with one or more of the six Wake County target audiences as identified in the EE-EI Plan—Wake County employees and officials, Government Agencies, the Regulated Community, Citizens, and Schools.

Additional drivers of EE-EI demand include:

- The ESA and the formation of the Wake County Environmental Stewardship Network has increased demand for S&WC to provide internal water quality/open space EE-EI to Wake County employees and officials.
- Wake County's designation as a Phase II community that must comply with the Clean Water Act's Stormwater regulations (NPDES Phase II) has increased demand for S&WC to provide water quality/open space EE-EI in partnership with the 12 Wake County municipalities and those municipalities, water quality groups and environmental organizations throughout the Neuse and Cape Fear River Basins.
- Due to Wake County's explosive population growth (current rate at 67 people per day; 25,000 per year), demand has increased for S&WC to provide water quality/open space EE-EI to citizens. Citizen requests further increase in response to the impact of drought, severe weather events, and health advisories for drinking, fishing and swimming.
 - In response to this population growth, the rate and intensity of development has likewise increased, greatly impacting water quality and open space. This creates an increased demand for S&WC to partner with other Water Quality Division sections—Sediment & Erosion Control, Stormwater and Flood Plain, Ground Water (Wells and Radon), Onsite Wastewater and Technical Assistance, as well as the Environmental Services Department and other County departments--to provide water quality/open space EE-EI to the Regulated Community.
- Explosive growth has extended to the Wake County Public School System (current rate of 4,000 students per year; ~114,100 students & ~7,400 educators at 134 schools; 2nd largest school system in NC; 25th largest in U.S.), increasing demand for S&WC to provide water quality EE-EI to an additional number of classrooms (from an additional number of teacher, PTA, and student report requests). This demand is fueled by an emphasis on water quality and environmental stewardship in the science curriculum mandated for grades 3, 5, 6-8, and 9-12 (environmental science is now required for high school graduation and advanced placement courses). In addition, many middle and high schools are requiring community service that increases requests for water quality projects and service learning. Requests for guidance in water quality careers are also on the rise.

Summary of Demand

Impact of \$26,000,000 in Open-Space Bonds

- This amount represents a 73 percent increase in open space funding over the \$15,000,000 bond amount approved in 2000.
- The intent to buy significantly more open space will increase the need for the County to develop natural resource management plans for open spaces.

- Parks staff projected annual open-space acquisitions of 1,000 per year. A half FTE devoted to open space management would allow the County to move from open-space planning for 25 percent of acreage to 33 percent in FY 06 and 55 percent in FY 08.

The Ability to Better Leverage County Dollars

- The Watershed Management Plan recommends stream and wetland restorations to protect water quality. History has shown that the County can take advantage of leveraging to implement restorations. In FY 2004, the County match was approximately 10 percent and the State match was approximately 90 percent to implement approximately \$450,000 in restorations.
- The addition of an FTE mentioned above, with half time devoted to restorations and watershed management could take greater advantage of this match amount and garner approximately \$800,000 annually to implement restorations and other conservation practices.
- The time is right for the County to take greater advantage of this leveraging by adding the Conservation Technician and accelerate implementation of the Watershed Management Plan.

Tobacco Buyout

- Approximately 80 percent of farms are estimated to have tobacco allotments.
- Over the next two to ten years the buyout will spur a shift to forestry, livestock operations, and more intensive row cropping, which will impact water quality.
- The shift in production will cause a spurt in demand for Soil and Water Conservation assistance to property owners, further pressuring staff resources.

Environmental Education and Environmental Information Initiatives

- The implementation of EE-EI initiatives is critical to the successful achievement of the vision and environmental goals of the five components of the ESA.
- Increased growth in Wake County increases the impact on water quality, thus fueling the demand for water quality / open space / environmental stewardship EE-EI to many different sectors of Wake County's population.
- Increased demand for EE-EI without additional resources demands that S&WC staff meet the challenge with realistic prioritization and innovation.

D. GROUNDWATER PROGRAM

Overview

The Groundwater Program staff consists of one supervisor and two field personnel (one Environmental Health Specialist and one Environmental Technician). This staffing level has remained constant since 2000. Each field person is assigned a work area of one-half of the county, which affects service delivery. However, this staff level is no longer adequate. Well grouts and well abandonment inspections are being missed, demand for water sampling and

analysis is increasing, and the program is being asked to assume additional responsibilities. These factors, in addition to the reduction in support from other Water Quality programs, contribute to the need for an additional staff member.

Amendments to the regulations governing well construction and groundwater protection in Wake County (effective Sept. 03) have produced a dramatic increase in the number of requests for water sample collection and analysis. Currently an estimated backlog of 2500 well permits exists that have not been sampled. Another issue that has affected service delivery is the ability to store and retrieve permit records. Site plans are only available in hard copies located in various locations about the office, and many of the historical permits do not contain a site plan or are considerably lacking in detail and accuracy.

An effort to educate homeowners residing in homes served by wells and septic systems continues through a cooperative agreement with the Wake County Realtors Association to distribute educational materials about well and septic maintenance. Materials are provided at the time of a property's sale. Environmental Services will continue to produce educational materials and will continue participation in realtor-training classes, and meetings with homebuilders and other contractor groups.

The following ongoing activities relate to the Strategic Groundwater Initiatives that resulted from the Comprehensive Groundwater Investigation.

- ***Groundwater Information Management System (GIMS)*** – A database of water quality results from newly constructed wells and existing wells will be fully implemented in January 2005. This system is currently undergoing beta evaluation. GIMS requires the use of Global Positioning System (GPS) units to capture the required GPS coordinates for each well sampled. These coordinates are then transferred to a database. This database will allow citizens to access sample results, perform due diligence when shopping for new homes and gain access to information regarding contamination sites. Throughout FY 2005-2006, GIMS will be evaluated in order to ascertain performance implications of the GIMS system on the work of program staff. It is anticipated that implementation of the system will greatly improve the programs client service delivery of water quality results and the retention and accessibility of water quality data for program and public use.
- ***Long-Term Monitoring Well Network:*** The Long-Term Monitoring Well Network focuses specifically on monitoring groundwater resource conditions (quality and quantity) in Wake County on a long-term basis. With that aim in mind the program entails the following activities: installation of monitoring wells and stream gauging stations throughout Wake County; monitoring well network (on County or public property); subdivision monitoring well network (open space or common areas in subdivisions); rainfall and stream gauging stations in public and private land.
- ***Countywide Radon Study:*** Radon in groundwater continues to be an initiative of great interest to the program. Phase I has been completed with analysis of data and reporting currently underway. Indoor air quality with respect to the presence of radon

is being investigated in conjunction with the investigation of radon in groundwater, especially considering the majority of health concerns associated with radon are from inhalation of radon gas. The program will implement Phase II to supplement Phase I efforts. Both air and groundwater samples from home with existing domestic wells will be analyzed, especially in the areas not served by CWSs. Study will continue to develop and implement the environmental education plan for radon in groundwater for employees, citizens, and the building community.

Status of Workload and Trends

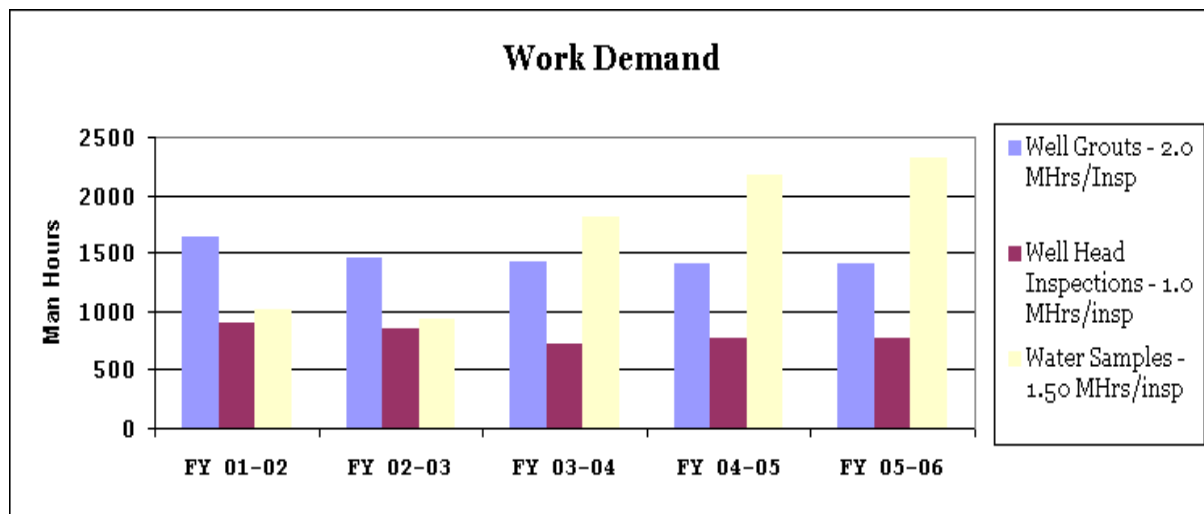
Well grout inspections resulting from new well construction are slightly down from FY 2002-2003 (1%). Well grout inspections are expected to remain at the same level through FY 2006-2007.

Wellhead inspections have trended slightly downward over a three-year period and are currently at the same level as well grouts. This reflects a reduction in the number of wellhead reinspections and is a direct result of an aggressive enforcement of the Groundwater Program policy of accessing reinspections fees. The number of wellhead inspections should remain consistent with the number of well grout inspections throughout FY 2006-2007.

Demand for water sample collection and analysis has increased since FY 2002-2003, and demand is expected to continue to increase through FY 2006-2007.

Figure IV-1 on the following page demonstrates the actual and projected total demand (in man-hours) for Groundwater Program services over time.

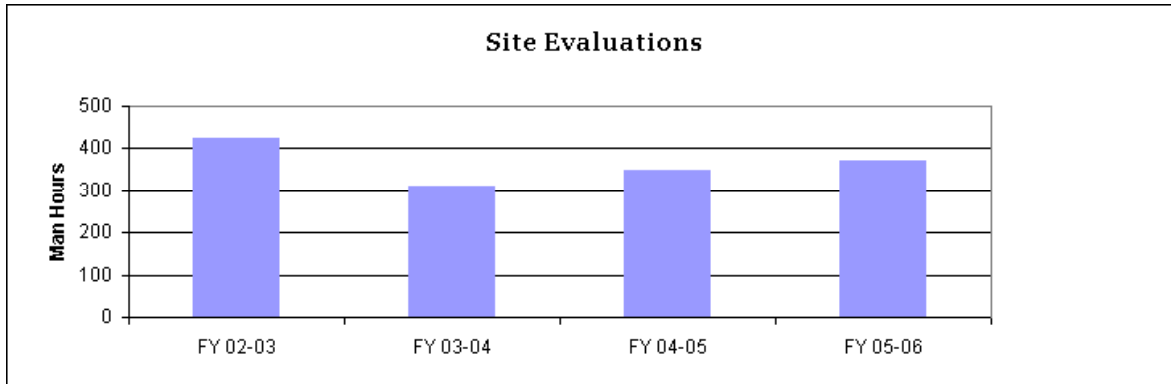
Figure IV-1: Groundwater Actual and Projected Work Demand Analysis



Site Evaluations. Site evaluations trended downward in FY 2003-2004, due largely in part to the recovery from the drought of 2000-2002. Projections based on current FY 2004-2005 numbers indicate an increase in demand for site evaluations for FY 2005-2006. Figure IV-2

demonstrates how the amount of actual and projected site evaluations (in man-hours) changes over time.

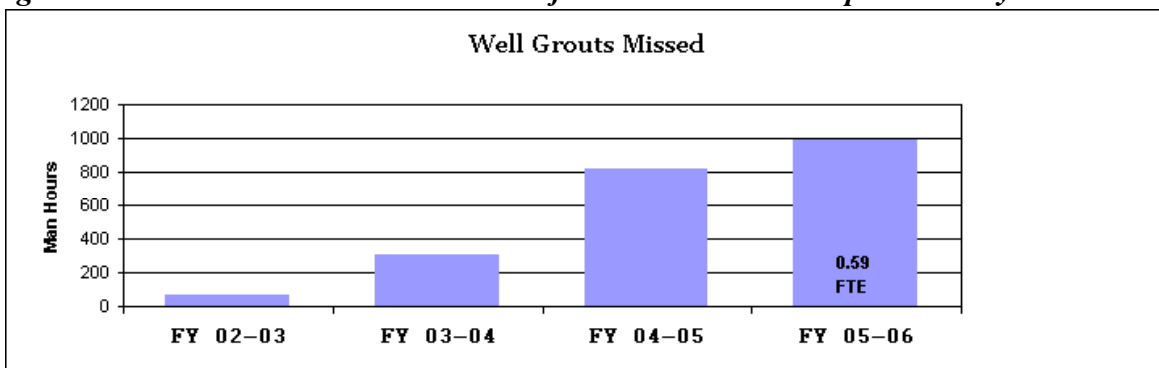
Figure IV-2: Groundwater Actual and Projected Site Evaluation Analysis



Well Grout and Well Abandonment Inspections. Well abandonment inspections were not required prior to September 2003 and yearly totals have been tracked for FY 2003-2004 and current 2004-2005. The demand for well abandonment inspections is expected to increase slightly (1% to 3%) as more citizens and contractors become aware of the regulatory requirements for this inspection.

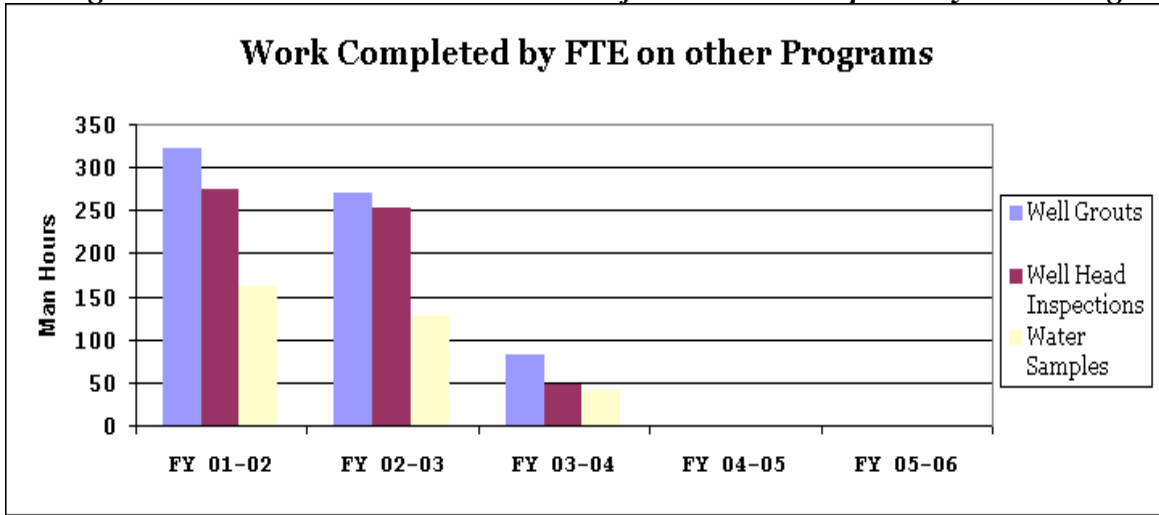
In FY 2003-2004, a total of 150 well grout and well abandonment inspections were waived due to lack of available staff. As the number of water sample and well abandonment inspections increase it is anticipated that a greater number of inspections will be missed. Figure IV-3 demonstrates how the number of missed well grouts is increasing over time.

Figure IV-3: Groundwater Actual and Projected Well Grouts Inspection Analysis



Work Completed by Other Programs. In FY 2003-2004 the Wastewater Management Program assisted the Groundwater Program by performing the equivalent of 0.11 FTE of inspections. This was accomplished through the use of new employees awaiting authorization by the State of North Carolina to perform onsite wastewater duties. It is anticipated that the Wastewater Management Program will phase out this assistance in FY 2005-2006. Figure IV-4 shows the amount of work (in man-hours) completed by other programs in the past, and how this assistance has not occurred in current and future fiscal years.

Figure IV-4: Groundwater Actual and Projected Work Completed by Other Programs



Swimming Pool Inspections. The Swimming pool business plan projects a 3 percent increase in the number of swimming pools to be inspected for FY 2005-2006.

Demand Analysis

The primary drivers of demand for the Groundwater Program can be categorized under the following two main categories: “Regulations Governing Well Construction and Groundwater Protection in Wake County;” and “Implementation of Comprehensive Groundwater Investigation Initiatives.”

Regulations Governing Well Construction and Groundwater Protection in Wake County.

- The construction of new wells associated with: housing construction, irrigation, and the replacement of existing wells. Except for irrigation wells these occur in areas not served by municipal water and sewer. All inspections associated with these wells including: well siting evaluations, well grout inspections, wellhead inspections, sampling and data collection, well abandonment and well construction complaints.
- There is a need to maintain a reasonable processing period for service requests. A certificate of occupancy for new homes with new wells is contingent upon approved water sample analysis results. Failure to process in a timely manner may result in missed loan closings for homebuilders and homeowners.
- Complaints from citizens combined with requests for consultative services regarding well construction and water quality.

Implementation of Comprehensive Groundwater Investigation Initiatives

- Complaint investigations resulting from the discovery of contaminated wells are unpredictable and demand immediate priority. In the past these investigations cover entire subdivisions and temporary staff reassignments and delays in providing routine daily services. These investigations traditionally consume both time and resources.

- One FTE participates in emergency response services provided by the Environmental Services Department. These are ongoing services, which do not follow any predetermined schedule and the level of effort cannot be estimated for each response. These services compete with traditional services described in the business plan.
- Swimming pool inspections are planned inspections, typically ranging between 400 to 500 per year and directly compete with Groundwater Program services during periods where demand for these services is high. This directly contributes to delays in traditional services and ultimately an increased backlog. Alternatives to these inspections will be examined and recommended for implementation in future years.
- The Groundwater Program participates in the Environmental Education and Environmental Information program. As recommendations from the EE/EI business plan are developed, additional time demands will be placed upon staff.
- The Groundwater Program assists with the staffing of Emergency Shelters during natural disasters, weather related events, etc. The Environmental Services Department has experienced an average of one event per year. As with swimming pool inspections and emergency response activities, these activities compete with traditional services and contribute to delays in services and ultimately increased backlog.
- Beginning in FY 2005-2006, all Migrant Housing Evaluations and Mobile Home Park Inspection responsibilities will be assigned to the Groundwater Program. These responsibilities currently are assigned to the Environmental Health and Safety Division and consist of seventy-one (71) migrant housing inspections and ninety-two (92) mobile home park inspections per year.

Summary of Demand

Demand during FY 2003-2004 resulted in three hundred twenty-seven (327) missed inspections. Projected demand for FY 2004-2005 is expected to result in nearly four hundred (400) missed inspections. Demand for water sample collection and analysis has increased dramatically in FY 2003-2004 and is projected to increase through FY 2005-06. This increased demand will affect turn around time in collection of samples, which poses a concern for the homebuilding community.

Demand for swimming pool inspections normally occur in the months of March, April and May. This added demand during what is traditionally the busiest quarter of the year results in delays in services and missed inspections within the Groundwater Program.

Adding the Mobile Home Park and Migrant Housing Program will necessitate the Groundwater Program to add one-half FTE. The position will require an authorized R.S. to conduct all inspections in accordance with state statutes. Failure to obtain a one-half FTE that this program currently demands will result in a further increase in missed inspections and will drastically reduce turn around time for routine Groundwater Program services.

In FY 2003-2004, the Wastewater Management Program provided 0.11 FTE's to the Groundwater Program. Beginning in FY 2005-2006, this service will no longer be provided.

E. WASTEWATER MANAGEMENT PROGRAM

Overview

Routine demand for wastewater services generally applies to compliance with Article 11 of Chapter 130A of NCGS 15A NCAC 18A .1900 and Memorandum of Agreement with Division of Water Quality and Delegation of Authority from NCDENR, Division of Waste Management. Daily operation and production items that are related to the above regulations and agreements:

Currently, there are 23 positions within the Onsite Wastewater (OSWW) and Technical Assistance (TA) sections. This includes three new FTEs created in the FY 2004-2005 budget and the reclassification of the Water Quality Environmental Health Supervisor position to Environmental Engineer Consultant, and the reallocation to Technical Assistance. OSWW transferred one position to the first floor and upgraded duties. The position was also moved to Administration's budget.

Another issue affecting service delivery is the ability to store and retrieve records on permits. Site plans are only available in hard copies at the office, and many of the septic tank permits issued prior to the early 1980's lack site plans. WCES is working with other departments to implement a procedure utilizing electronic site plans. OSWW is also partnering with the Groundwater Program on a pilot study for the use of GPS units for long term tracking of septic systems in FY 2005-2006.

Environmental education efforts are pursued through a number of avenues. Staff of Technical Assistance regularly participates in development and instruction of courses offered through NCDENR and NCSU Soil Science Extension with respect to wastewater disposal. Education of homeowners that utilize septic systems is in progress through a cooperative effort with Raleigh Regional Association of Realtors in distribution of education material about septic and well maintenance at time of the property's sale. Educational materials are also supplied with each septic system permit issued. WCES will continue to produce copies of educational materials in future years (based on number of applications for new septic permits and projected home resale's) and will continue other education efforts through the Homebuilders Association and Realtor training classes (in association with the Wake County Extension Service) throughout the year. In compliance with Title VI of the Civil Rights Act, WCES has generated Spanish translations of the homeowner education materials and all standard correspondence. In FY 2005-2006 WCES plans to work with a local Spanish radio station for public service announcements about the proper use of septic systems. WCES will continue to pursue other opportunities to educate the public.

There are an estimated 5,000 thousand existing subsurface systems using effluent pumps installed since July of 1992 that have a mandated inspection frequency (per State rule) of once every five years. Currently this translates into approximately 1,000 inspections per year. Approximately 500 new pump systems are currently being installed each year. As a result, the number of inspections required will continue to increase in future years. These systems

are currently not inspected due to lack of staff resources. An additional FTE would be required as a minimum to initiate these inspections. An assessment of the staffing needs will be conducted in FY 2005-2006 to determine the level of effort to complete these services.

Staffing remains a continual challenge. Despite budget allocations in FY- 2004-2005 to allow for additional salary (@ \$2,500/yr-per) for Environmental Health Specialist (EHS) and Team Leader staff, hiring experienced staff is nonexistent. In recent advertisements for an EHS, the On-site Wastewater (OSWW) program has not received any applications from Registered Sanitarians (RS). As a result, the program must resort to hiring RS interns. These individuals are not qualified to permit septic systems until they complete required coursework and on job training, which typically requires eight (8) months to one (1) year as required by the above statues. To respond to Emergency spills, Hazmat Awareness level training is required yearly for staff to maintain certificate from OSHA. Increasing the pay band for the EHS and accompanying pay adjustments will alleviate these problems, as the increased salary will allow the Division to hire more experienced staff and retain those currently in service.

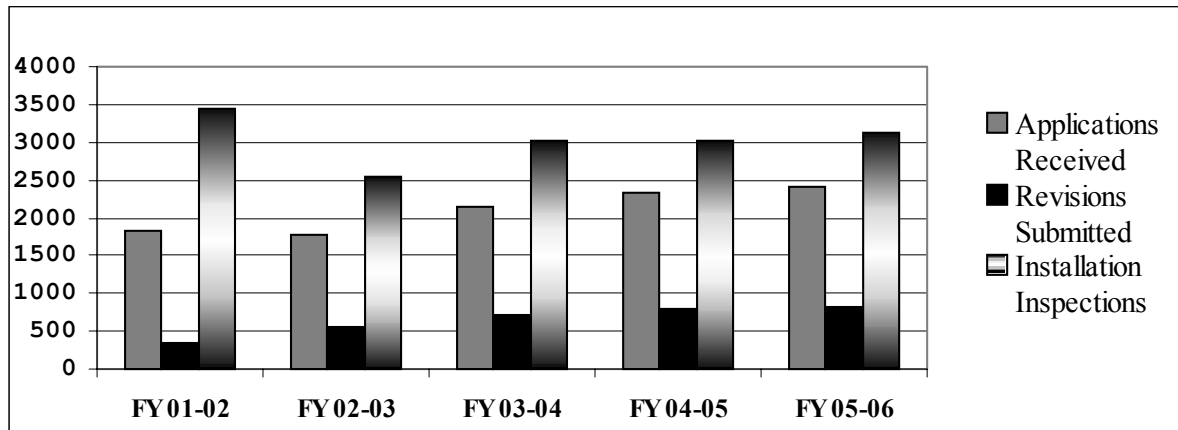
Status of Workload and Trends

Permit Applications - The volume of permit applications has started to rebound with the recovery of the economy. The projection for FY 2004-2005 is 2,340 applications. This level is expected to rise by 3% to 2,410 applications for FY 2005-2006 based on information derived from IDPP, the National Homebuilders Website, Wake County Planning Department, and Wake County Revenue Department. Figure x-1 demonstrates this trend.

Revisions - Revisions were not tracked in FY 2000-2001. The projected number of revisions for FY 2004-2005 is 709. This is an increase of 18% over FY 2003-2004 revisions. The projected revisions for FY 2005-2006 are 810 based on a conservative 3% increase. Revenue is produced from revisions in accordance with the currently approved fee schedule. Figure x-1 illustrates the upward trend for revisions.

Final Inspections of Wastewater Systems - The number of final inspections of installations of septic systems averaged approximately 3,000 per year between FY 2001-2002 and FY 2003-2004. The projection for FY 2004-2005 is 3,028 and FY 2005-2006 is 3,118. The number of final inspections often mirrors the number of applications per year, dependent on appropriate weather to conduct installations and the impact of economic conditions on construction. Figure V-1 shows the upward trend in finals since FY 2002-2003, when construction was affected by the events of September 11, 2001.

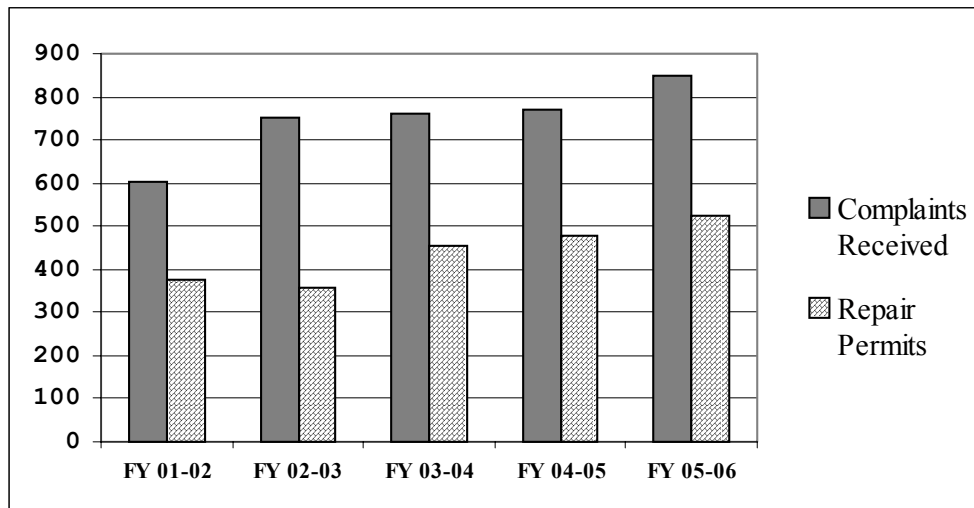
Figure V-1: Workload Trends for Applications, Revision Requests and Final Inspections of Wastewater Systems



Repair Requests - The number of repair requests has remained steady for the last three years, averaging 395 per year. The projected number for FY 2004-2005 is 476 (based on 1-1-04 to 10-31-04). This represents an increase of 20% over the average number per year for the last three years. The projection for FY 2005-2006 is 523 requests assuming this trend continues. Figure V-2 demonstrates this trend for repairs and associated complaints. In anticipation of the increase in repair requests, OSWW will be developing a team of staff members to investigate, consult, and survey problem areas of the county by 2007 in order to reduce the number of failing systems.

Citizen Complaints - Citizen complaints, which do not have an associated fee, have averaged 742 per year between FY 2000-2001 and FY 2004-2005. Projected for FY 2005-2006 is 772 complaints, representing a 4 % increase. The WCES investigates citizen’s complaints as part of its public health mission. Figure V-2 shows the slight upward trend in complaints.

Figure V-2: Workload Trends for Wastewater System Complaints and Repair Permits



The combination of workload areas previously described results in a total demand for mandated services that has averaged 5,344 requests per year between FY 2000-2001 and FY 2003-2004. The projection for FY 2004-2005 is 7,403 requests. The projected number reflects a stable, yet growing economy. Any unexpected, large growth within the building sector could adversely affect the service time. OSWW added 3 FTEs in last year's budget cycle to buffer the projections for FY 2005-2006.

Technical Assistance

The number of design reviews conducted by TA for large and complex wastewater disposal systems has started to increase, with a projection of 250 plans per year for FY 2004-2005, as compared to approximately 200 plans for previous fiscal years. Increases are expected for future years due to utilization of more restrictive properties requiring specially designed systems and more complex technology.

Field consultative contacts by TA staff have remained steady at approximately 1,200 per year. Although not included in the projections, demand for these services may also increase with increasingly complex systems and designs.

Mandated operation and maintenance inspections (O&M) on subsurface systems and residuals disposal sites are projected to steadily increase in future years with the constant addition of new facilities. These numbers do not address the drastic increase (~1,000+ per year) that would occur if all mandated O&M inspections were conducted. As indicated in Item 5 of the Status Report, increased levels of staffing would be necessary to conduct all inspections. In addition, the final data analysis from the septic system pilot study provides strong evidence that management of all existing wastewater disposal systems should be given consideration. Consideration of expanded management is also consistent with NPDES Phase II minimum control measures for illicit discharge detection and elimination.

The number of compliance inspections on facilities covered under the MOA increased significantly in FY 2003-2004 with the shift of these responsibilities to Technical Assistance and the employment of an Environmental Engineer Consultant. It was projected that this number will increase to approximately 115 in FY 2004-2005. It is expected that the number of non-discharge systems will increase over time, while the number of discharge systems will remain fairly static. Note that a large facility designed for irrigation of reclaimed wastewater is under construction with another such facility currently under review for permitting.

Table V-1: Technical Assistance Actual and Projected Workload over Time

Service Description	FY 2002-2003	FY 2003-2004	FY 2004-2005	FY 2005-2006	FY 2006-2007
System Design Reviewed	200	205	250	260	270
Field Consultations	1018	1200	1200	1200	1200
Final Subdivision Submission Reviews	106	136	160	165	170
O & M Inspections (Subsurface Systems*)	182	251	250	260	275
DS Compliance Inspections	26	44	70	70	68
Non-DS Compliance Inspections	40	45	45	48	51
*These numbers do not include the Type III systems utilizing effluent pumps that are currently not inspected.					

Swimming Pool Inspections

The Swimming pool business plan projects a three (3) percent increase in the number of swimming pools to be inspected for FY 2005-2006.

Demand Analysis

The primary drivers of demand for our service are:

Article 11 of Chapter 130A NCGS 15A NCAC 18A .1900

MOA with NC Division of Water Quality

- The construction of houses in areas that are not served by municipal water and sewer service utilizing subsurface, non-discharging and discharging wastewater disposal systems.
- Need to maintain a reasonable turn around time for processing of service requests (Wake County Homebuilders’ Association has requested 10 working days or less).
- The repair of existing subsurface wastewater disposal systems.
- Additions to existing facilities served by subsurface wastewater disposal systems.
- Installation of wastewater disposal systems requiring operation and maintenance inspections and associated initiatives that may develop in conjunction with the Septic Tank Pilot Study recommendations.

- Complaints from Citizens and repair request.

Emergency Response Services

These are ongoing services, which do not follow any predetermined schedule and the level of effort cannot be estimated for each response. Generally, these responses have required staff commitments from four to more than 100 hours to complete. These services compete with traditional services described in this Business Plan. More staff is being recruited to spread responsibilities across the Division of Water Quality to allow for leveling of services where there are competing demands.

Swimming Pool Inspections

These are planned inspections, typically ranging in number between 400-500 per year, and directly compete with Wastewater Program services during periods where demand for these services is high. This directly contributes to permit turnaround delays and ultimately increased backlog. Alternatives to these inspections will be examined and recommended for implementation in future years.

Environmental Education and Information

The majority of senior Onsite and TA staff are currently engaged in the implementation of the County's Environmental Education and Information Business Plan. As recommendations from this plan are developed, additional demands (yet to be quantified) will be placed on managers.

Emergency Shelters

These services are related to staff support of the County's shelters during natural disasters, and have averaged about one event per year. They typically require reallocation of between 200 to more than 1,000 man-hours per event of support. As with swimming pool inspections and emergency response activities, these activities compete with traditional services and contribute to permit turnaround delays and ultimately increased backlog.

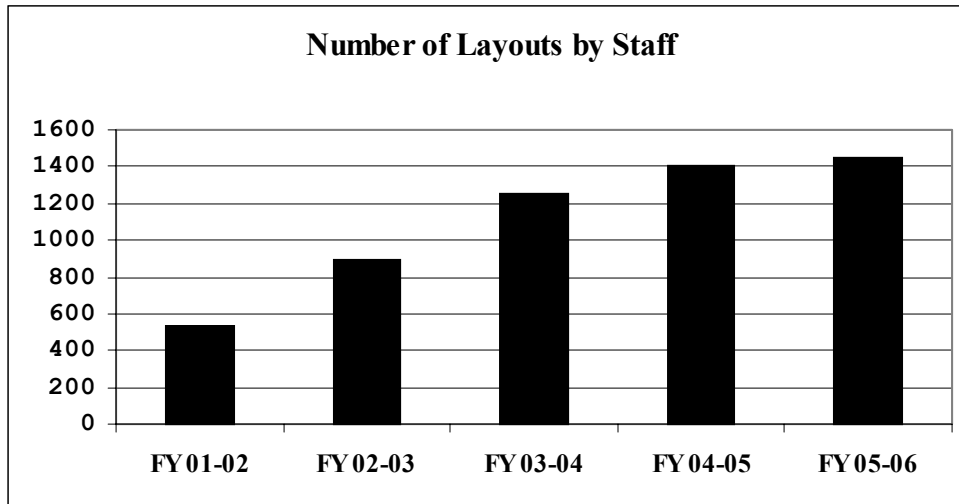
Summary of Demand

WCES has experienced an average turnover rate of 25 percent per year for EHS's from 2001 to present. Traditionally, overtime has been required to maintain a turnaround time of 10-20 working days for service requests. Even with the overtime allotments, turnaround time on permits has averaged more than the 10-day goal and often approaches 17 days. The Division does not consider the use of overtime to be a valid long-term solution to address turnaround time. Additionally, swimming pool inspections occurring during the spring increase demands on staff time, which may result in increased response times for other activities. Additional staff were added in the FY 2004-2005 budget (3 FTEs) to help achieve the turnaround goals. The new employees completed training on 11-21-04 and are in the process of authorization by DENR to create permits. Their production in the spring of 2005 will decrease the need for overtime.

Over the next three years, the population increase is projected to average 23,779 per year, or about 82.5% of the growth over the past three years (Source: Wake County FY 2002-2003

Environmental Services Department Business Plan). It is expected that the demand for wastewater disposal systems will reflect the population projection, but that the approval process for such systems will continue to require increased staff time, given the increase in more restrictive lots and increasing demands on land resources. Figure V-3 demonstrates the increase in number of layouts and visits by staff on complex lots. This trend will continue as the volume of land better suited for wastewater disposal systems decreases with the progression of development. Additionally, it is expected that as existing systems become older, requests for repairs along with the need for expanded management will continue to increase.

Figure V-3: Trend in Detailed System Layouts



V. LONG AND SHORT-TERM OUTCOMES

Key Outcomes

The following section identifies key outcomes that the Water Quality Division anticipates achieving within the next one to three years. The degree to which these outcomes are successfully achieved will depend on available resources, the cooperation of municipalities, support from the Environmental Services Department and County Manager's Office, and approval of the Board of Commissioners.

Program or Service	Desired Outcome	Timing
Wastewater Permitting and Inspection Programs	Protecting the public health and water quality by ensuring that on-site water and wastewater disposal systems throughout Wake County will serve their intended function in a healthy and sustainable manner.	Ongoing
	Reduce turnover of staff to less than 5 percent per year.	By FY 2007
NCDENR Monitoring Programs	Reduce the number improperly operated and maintained wastewater treatment facilities through inspection of all wastewater systems as required by Memorandum of Agreement with NCDENR.	Ongoing
Watershed programs	Continue soil and water conservation efforts on privately owned lands to reduce sediment delivery to water resources	Ongoing
	Work with Wake County Parks and Open Space to protect and manage open space lands to protect water quality.	By FY 2010
	Develop recurring funding source for watershed, open space and stormwater programs.	By FY 2008
	Implement the Watershed Management Plan	Ongoing, to be prioritized in individual Business Plans.
Education and Outreach	Collaborate with municipalities on countywide marketing/communications plan to educate and provide outreach to all residents, businesses, and schools.	Annually

Surface and Groundwater Protection	Implement strategic initiatives vital to enhancing the quality, efficiency, and effectiveness of groundwater protection service to the citizens of Wake County, and its management of water quality and water resources.	Ongoing, to be prioritized in individual Business Plan.
	Implement the Comprehensive Groundwater Investigation	Ongoing, to be prioritized in individual Business Plan.

A. STORMWATER AND FLOODPLAIN MANAGEMENT PROGRAM

Short-Term Outcomes

- Update web page to serve as a primary source of Floodplain information, reducing calls to Floodplain Manager.
- Revise Stormwater Control Management and Watercourse Buffer Regulations
- Complete review of Cape Fear FEMA Flood Insurance Rate Maps
- Complete Steps I and II of Countywide Stormwater Management Project.

Long -Term Outcomes

- Maintain reasonable turn around time on review of stormwater plans, flood studies and flood certifications
- Continue providing review comments and participating in DRS meetings
- Complete Step III - Implementation of collaborative and or individual stormwater programs

B. SEDIMENT AND EROSION CONTROL PROGRAM

Short-Term Outcomes

- To control offsite sedimentation by the installation of stormwater runoff control measures to limit the effects of flooding, nutrient loading and water quality degradation. All designs to accommodate the 10-year storm event at a minimum, and provisions for conveyance of the 100-year storm without adverse impact to structures to be included in the design.
- Maintain partnerships with municipalities outside Wake County's jurisdiction so that ordinance requirements reflect the same or similar intent.
- To protect the land and water quality of Wake County now and in the future. In order to achieve this outcome, projects within Wake County's jurisdiction will be subject to

technical scrutiny and inspections to verify proper function of engineered devices and compliance with ordinance requirements.

Long -Term Outcomes

- To improve environmental knowledge and awareness within the development community.

C. SOIL AND WATER CONSERVATION DISTRICT PROGRAM

Desired Outcomes:

Watershed Management

Individual Land Unit Management. The Soil and Water Conservation sub-section provides this service to landowners and operators, public and private, on individual tracts of land with specific objectives. As an example, a farm operator can request technical assistance on property that they own with regard to a soil erosion and water quality problem. The Natural Resource Conservationist (NRC) will go to the tract of land, do an assessment of the natural resource base, determine the problem(s), and write a plan with specific solutions on how to control the problems described. Additionally, the NRC educates the owner/operator as to the cause of the problem and the intended solutions and provides the owner/operator with a copy. The NRC provides the design, construction/implementation management, and contract management (if cost-shared funds and/or grant funding is involved) as a turnkey operation. While perhaps a part of a larger basin or sub-basin, the planning and application is specific to an individual tract of land.

Basin and Sub-basin Land Management. This priority outcome concerns providing planning and implementation on multiple tracts of land, generally publicly held lands or lands managed by NGO's although it could potentially include privately held lands. The NRC will do an on-site assessment of the natural resource base, often using established protocols discerned by others in the discipline, at the request of the public/NGO/private entity or in advance as a means of obtaining grant funding to solve a larger scale problem. Additional assessment activity occurs by doing geographic information systems (GIS) analysis of watershed drainage areas, building densities, land use data, natural heritage information, and the like. Generally these plans are then used to obtain funding from grant and other financial resources to restore, enhance, or preserve the natural resource base.

Open Space Management:

Acquisitions. S&WC provides assessments similar to those described above in the basin and sub-basin section to the County Open Space program for many of the larger tracts being considered for acquisition. The assessment report details baseline data, again, using established protocols, that can be used to secure leveraged funds.

Stewardship. The stewardship of Open Space program parcels is another service area that the S&WC sub-section is involved with. S&WC provides implementation supervision, contract management in some project areas, and technical assistance toward achieving this outcome. In addition, personnel resources are used on occasion to achieve these goals.

Funding Sources for Implementation:

Cooperative Partnerships. The S&WC sub-section works with Federal and State agencies in addition to grant sources in securing funds for implementing the above services. After the assessment, S&WC analyzes the conditions of the resource base and its proximity to targeted efforts by other agencies. Through its cooperative agreements with the District Board, NRCS, NCDSWC, and the additional partners with formal memorandums of agreements such as NC EEP, US Fish and Wildlife Service, NC Forest Service, and NC Wildlife Resource Commission among others, S&WC is able to call upon these partners for technical and, in some cases, financial assistance to implement restoration, enhancement, and preservation projects. Some of these funding sources provide turnkey projects where others have cost-share or in-kind contributions.

Cost-shared Funds. These funds are distributed directly to the participant for work performed in installing best management practices on impaired lands. Generally some cost is born by the participant. S&WC provides contract management and technical assistance.

Private Sources. Funds from private citizens and groups are used to forward the implementation of best management practices also. Utilizing cost-share programs funds, the average participant has, on average, approximately 40% of the total cost of implementation invested. To date these funds have not been tracked, but S&WC will begin tracking these funds in order to show total contributions to the effort.

Grant Funding. Grant funding is used to forward best management practice installation. Grants are developed in association with the Grant Writing Team for selected projects fitting County and the grant authority's needs. In order to continue to secure this important funding source, S&WC will continue to work with the Environmental Services Grant Team on selected projects.

Environmental Education and Environmental Information Initiatives:

EE-EI is an integral component of S&WC's priorities for Watershed Management and Open Space Management. Below are the desired EE-EI outcomes:

- Include EE-EI in every staff member's work plan.
- Deliver 3,000 hours of EE-EI that addresses water quality / open space / environmental stewardship as recommended in the ESA.
- Provide EE-EI outreach to 4,000 participants that represent all 5 target audiences identified in the EE-EI Business Plan.
- Maximize EE-EI outreach by leveraging resources with internal and/or external partners that equally collaborate by choice on a continued basis.
- Increase EE-EI effectiveness with an evaluation tool and progress reporting systems that better identifies and tracks performance measures.

- Receive a rating of 95% “Excellence” or better on evaluations from EE-EI participants.
- Increase efficiency through a prioritized EE-EI strategy plan that is closely followed and regularly revisited and updated.

D. GROUNDWATER PROGRAM

Short -Term Outcomes

- Meet increased sampling demand while maintaining or reducing turn around time for water sample collection and analysis.
- Improve our ability to store and retrieve records on permits.

Long -Term Outcomes

- Protecting the public health and water quality in Wake County by ensuring that all private and semi-public wells are properly located, constructed, tested and maintained.
- Protect the public health and water quality in Wake County by ensuring that open, abandoned wells that are potential conduits for groundwater contamination and are also safety hazards will be properly closed out.
- Ensuring that Migrant Housing and Mobile Home Parks are provided with water supply wells (where applicable) that are protected and produce potable water and that the associated wastewater disposal systems are operating as permitted and are not causing public health hazards and nuisances.

Strategic Groundwater Initiatives

- Establishment of a Long-Term Monitoring Network
- Continued investigation of radon in groundwater and indoor air
- Provide citizens, contractors and consultants access to water quality and related data through continued development and support of the Groundwater Information Management System.
- Increase the knowledge of well owners regarding well protection, maintenance, testing and available services offered by Wake County and other agencies.
- Conduct a domestic well testing program
- Identify areas of limited groundwater availability.

E. WASTEWATER MANAGEMENT PROGRAM

Short –Term Outcomes

- Decrease turnover and decrease the need to provide basic training to newly hired personnel for filling EHS positions.
- Improve our ability to store and retrieve records on permits.
- Ensure that property owners and wastewater system operators operate and maintain their systems properly. Printing educational materials for citizens remains best communication avenue for the department with distribution by realtors at time of property sale.

Long –Term Outcomes

- Assuring safe operation of on-site systems and effective assimilation of wastewater into the soils and environment.
- Protecting the public health and water quality in Wake County by ensuring that subsurface wastewater disposal systems throughout Wake County will serve their intended function in a healthy and sustainable manner, with emphasis on the following:
 - For areas where municipal water and sewer is not planned for extension according to the Wake County Water and Sewer Plan, assuring that the systems will sustain until water and sewer service is available.
 - For areas where, by local government policy, municipal water and sewer service is not to be extended, assuring that systems be designed and managed so that they function properly in a sustainable manner.

Outcomes related to MOA with NCDENR Division of Water Quality and DOA from NCDENR:

- Protecting the public health and water quality in Wake County through implementation of the MOA with DWQ by:
- Ensuring acceptable bacterial water quality within priority watersheds and recreational waters.
- Reducing the number improperly operated and maintained wastewater treatment facilities.
- Inspecting all wastewater systems, complete all reports and Notices per schedule specified in the MOA.
- Protecting the public health and water quality in Wake County through implementation of the DOA from NCDENR, Division of Waste Management by:
 - Conducting compliance inspections, reporting, enforcement and provision of consultations on land disposal sites for residuals as specified in the DOA.

VI. ACHIEVEMENT OF OUTCOMES

Approaches for Achieving Outcomes

The Water Quality Division has been in a transitional stage since its formation in 2002 and will continue its transition throughout FY 2005-2006. It is the goal of the Division to continue to evaluate all major programs and policies over the next two years and develop improvement plans

for recommendation in the Business Plan for FY 2005-2006 and FY 2006-2007. The following sections describe some of the strategies being employed by the Division to achieve its desired outcomes. More detailed strategies are described in the program sections, which follow this Division overview.

Wake County Board of Commissioners Accepted and Adopted Plans

The Division will continue to work towards implementing the Wake Watershed Management Plan (CH2MHill, 2002), and the Wake County Comprehensive Groundwater Investigation (CDM, 2003).

Water Quality Committee

In December 2003, the Division formed the Water Quality Committee to direct the planning and implementation of the County's Watershed Management Plan and Comprehensive Groundwater Investigation as well as direct Division in addressing emerging water quality issues. The committee has five primary objectives (noted below) that have been approved as the Committee's charge by the Wake County Environmental Services Committee, and the Wake County Human Services and Environmental Services Board. The charge for Water Quality Committee will continue to focus on accomplishing the following:

- Support county efforts to educate the public about water quality issues and efforts needed to conserve the County's water resources.
- Support county efforts to acquire additional sources of funds for Implementation of the County Watershed Management Plan, Comprehensive Groundwater Investigation and other efforts to improve and sustain good water quality within the county.
- Work with county staff to develop a broad plan for countywide implementation of the Wake County Watershed Management Plan and Comprehensive Groundwater Investigation.
- Serve as a voice for water quality issues within the County in support of the Watershed Management Plan, Comprehensive Groundwater Investigation, and related open space and environmental health issues.
- Serve as a sounding board for the County's Water Quality Division and water quality issues being addressed by the County Environmental Services Committee.

Stormwater Management Program, a Collaborative Approach

The Division is pursuing a regional Stormwater Management Program to evaluate programs for a countywide approach to NPDES Phase II regulations and relevant portions of the Comprehensive Watershed Plan. These programs will likely require the involvement of staff at the state and local level to accomplish these goals. Likely opportunities for collaboration to achieve a successful Stormwater Program will involve the following activities:

- Through its existing Interlocal Agreement between the County and the twelve municipalities, the Division will evaluate the services relating to implementation of NPDES Phase II and related Stormwater Management Programs. This will involve an evaluation of services to be provided by the

County and each individual municipality and identify stormwater quality and quantity program needs or requirements and approximate costs.

- Form a committee with the State's 32-named NPDES Counties to provide a common approach to NPDES Phase II implementation including the development of a model Ordinance. This forum would be beneficial to share information and discuss opportunities for any collaborative approaches (such as developing a model ordinance) that may result in greater efficiency and effectiveness of our individual programs.

Ordinance Amendments

Amendments to the Water Supply Watershed Regulations and Stormwater Control, Management, Watercourse Buffer Regulations and The Sediment & Erosion Control Ordinance are planned for FY 2005-2006.

Program Planning & Development

The Division continues to focus on assisting other County departments and Divisions in meeting their goals. The Division is currently involved in County programs (some initiated as recently as FY2002-FY2003) including the Land Stewardship Business Plan, Unified Development Ordinance, the Comprehensive Open Space Plan and others. The Division will continue to provide technical resources to these very important programs and initiatives.

Education & Outreach

The ambitious Environmental Education-Environmental Information (EE-EI) goals of the Environmental Stewardship Agenda, its five environmental plans, and the EE-EI Business Plan itself warrant a large demand for internal EE-EI training. This increased training workload will necessitate the immediate training/cross-training of EE-EI Providers in FY 2004-2005 before employee training can commence as directed. Other programs will challenge the EE-EI resources. The new NPDES Phase II requirements for public education outreach increase the need for comprehensive, multi-faceted long-term EE and short-term EI to raise public awareness. This poses an enormous challenge to reach 600,000+ Wake County citizens and affect measurable behavior change. The Comprehensive Watershed Management Plan recommends sediment and storm water volume as the two major sources of water quality degradation to be addressed through EE-EI. The Wake County Groundwater Study has initiated testing for radon and other chemical constituents in ground water for the first time. Test results with high contaminant levels must be shared with affected citizens along with effective EE-EI to assist citizens in understanding data results, adopting best practices to protect ground water, and protecting human health.

Capital Projects

NPDES Implementation Step II– The Division is seeking \$600,000 in FY 2005-2006 to fund Step II of the County's Collective Stormwater Management Evaluation, an ongoing effort involving the thirteen units of local governments in Wake County intended to identify opportunities for collaboration to cost-effectively address regional stormwater management issues.

Step I of the evaluation will identify opportunities to cost-effectively meet the minimum requirements of the NPDES Phase II program and other regulatory mandates, as well as any optional programs that may achieve other stormwater-related goals if selected by future stakeholders, through a common, collaborative program. Step I will be completed by June 2005. In Step II, representatives of the local governments that agree to evaluate the development of a collective program will convene a facilitated stakeholder process to select levels of service with respect to program elements such as program management, system operations and maintenance, and capital improvements. Preliminary decisions made regarding program services will be used to identify institutional structure and staffing options, potential sources and amounts of program funding, and an implementation schedule. Participating local governments will develop interlocal agreements that commit them to some or all of the program elements offered by the collective program and establish individual responsibilities and revenue contributions. Step II will also include a comprehensive public education, information, and outreach program to communicate the objectives and key proposed elements of the collective program.

NPDES Phase II, Step III - The Division is seeking \$1,500,000 in FY 2006-2007 to fund the County's efforts for Step III - Implementation of the County's Collective Stormwater Management Program, an ongoing effort involving the thirteen units of local governments in Wake County intended to identify opportunities for collaboration to cost-effectively address regional stormwater management issues.

The County and all twelve local municipalities have initiated a feasibility study (Step I) to identify opportunities to cost-effectively meet the minimum requirements of the NPDES Phase II program and other regulatory mandates, as well as any optional programs that may achieve other stormwater-related goals if selected by future stakeholders, through a common, collaborative program. Step I will be completed by June 2005. In Step II, scheduled for completion in July 2006, representatives of the local governments that agree to participate in some capacity in the collective program will identify specific program elements and funding commitments for the collective program, and will execute interlocal agreements to implement the proposed program. Step III will involve the actual development of the program as recommended in Step II, including specific program institutional structures, staffing plans, budget projections, and the identification and the development of additional sources of revenue to fund the selected programs. It should be understood that the costs of Step III would depend directly on the stormwater programs defined during Step II and the number of municipalities comprising that program.

WCOB Sixth-Floor Office Renovations - The Division is seeking Capital Improvement funding FY 2005-2006 to address changes needed in the sixth floor office space (Wake Office Building). These recommendations are based on the following:

- To consolidate and eliminate current storage spaces.

- To consolidate permitting files to a single area, thus saving on administrative staff filing time.
- To allow for consolidation of telephone and administrative staff, thus saving on staff time and to provide better service relative to customer interface, and
- To relocate the Soil and Water Section from the Wake Office Park to the Wake Office Building.

Service Improvement in the Administrative Support Section

This Section will continue to provide service functions as currently defined. However, better coordination is needed between the Division's telephone staff, first floor operations and the Inspections/Development/Plans/Permits (IDPP) organization, which is responsible for collection fees for the Water Quality Division. Reclassification of staff will help to address coordination between the sixth and the first floor. This realignment will provide better coordination between the permitting and inspections and will provide a fee collection and tracking function that is needed to ensure a more seamless service delivery.

Professional Development

The Division will focus on staff professional training and development. Safety training will be a priority for field staff. Improving computer skills and capabilities related to job skill sets will also be a priority. This training will be mainly internal. Individual work objectives and performance evaluations will be a top priority. Work objectives will be developed from this FY2005-FY2007 Business Plan and updated reviewed with individual staff not less than semi-annually.

Performance Measures - Division

(See specific Performance Measures for the individual Sections, provided below)

The Division will first seek to provide a logical organization and administer that organization through effective management to eliminate obstacles that would tend to prevent staff from achieving their Work Objectives. Individual performance measures will be the focus of the Division's priorities during the next fiscal year. The outcome of achieving the defined individual performance measures can be summarized below:

Staff Accountability

Individual accountability has been difficult to measure due to inadequate time-tracking methods. Reporting of individual performance follows the same path since information gaps exist in accounting for staff time. Electronic timesheets and individual time reporting systems will be evaluated. The Division Director will evaluate these measures to determine the effect of these changes on individual performance.

Reporting and Time Allocation

As explained in the Status Report Section, the permit backlog in the Wastewater (Onsite and Technical Assistance Sections) segments continues to be problematic with the building community. The Division will evaluate wastewater staff time allocation and provide recommendations regarding what performance indicators will be necessary to ensure that the backlog is being addressed.

Billing and Fee Collection

Billing and fee tracking will continue to be improved upon at the program level. The Division will continue to rely on traditional Mainframe methods for tracking progress for permitting and inspections, which are discussed in individual Section Business Plans. Reporting of these indicators needs to improve, which should occur with the organizational changes proposed for the First Floor Operations.

Cost Tracking and Budget Accountability

Budgeting at the index level will help to manage costs on a programmatic level and provide better evaluation of the cost and value of each program. New index codes were developed for the FY 2004-2005 budget and they are providing better accountability in terms of fee application and better accountability for resource allocations.

Milestones of Service Accomplishments - Water Quality Division

(See specific Service Accomplishments for the individual Sections, provided below)

FY 2005 - FY 2006

- Complete Ordinance revisions as discussed above for the Stormwater Programs and the Sediment and Erosion Control Section.
- Work with the Water Quality Committee to prioritize the implementation plans for the Comprehensive Watershed Management Plan, and the Comprehensive Groundwater Investigation. Based on recommendations from the Water Quality Committee, seek Board of Commissioners approval to implement strategic initiatives that are vital to enhancing quality, efficiency, and effectiveness of the Water Quality Division to the citizens of Wake County, and its management of water quality and water resources.
- Implement the EE/EI Business Plan and develop working-level initiatives related to the EE/EI Business Plan.
- Complete Step II of the Stormwater Management Program.
- Form partnership for NPDES Phase II, 32 county jurisdictions to participate in a Focus Group process.
- Eliminate turnover of staff to manageable level.
- Reduce backlog for all permit applications.

FY 2006 - FY 2007

- Complete evaluation of program services and prioritizations and implement recommendations.

- Evaluate staffing and organizational alignments and implement organization changes
- Complete Step II of the Stormwater Management Program
- Implement the EE/EI Business Plan.

A. STORMWATER AND FLOODPLAIN MANAGEMENT PROGRAM

Strategies for Achieving Outcomes

Water Supply Watershed Regulations and Stormwater Control, Management and Watercourse Buffer Regulations

- Review and act on permit applications for preliminary plans (within five working days) final subdivision plans (within three working days), stormwater management plans and construction drawings (within thirty working days average) for conformity to nitrogen reduction, impervious surface coverage limits and riparian buffer requirements. This includes but is not limited to site inspections for conformity to ordinance requirements and approval elements.
- As part of DRS and site plan review process, determine consistency with regulations. Limit monthly attendance at Board of Adjustment meetings to those where Stormwater manager is required to provide sworn testimony specific to a particular case. The Planning Department must request such participation in writing at least 30 days prior to meeting.
- Amend Stormwater Control, Management and Watercourse Buffer Regulations to clarify intent.

Countywide Stormwater Management Evaluation

- Administer contract with consultant (Camp Dresser and McGee) to be completed by 6/30/05.
- Coordinate Stormwater Managers Group meetings (11/04 - 4/05)
- Participate in Stormwater Managers Focus Group meetings (10 @ 4 hours per mtg.) Respond to stormwater survey and participate in Individual Needs Assessment Survey Interview. (11/04 -4/05)
- Oversee development of feasibility phase/development of Stormwater Management Evaluation (completion date 6/30/05)
- Administer project budget, process pay request
- EPA grant administration and ensure compliance
- Prepare and present reports to Board of Commissioners and municipals managers
- Secure funding for Phase II and Phase III (Capital Request, Apply for Grants)

Floodplain Management

- Review building plans (within five working days), commercial plans (within five working days), preliminary (within five working days) and final subdivision (within three working days) plans and construction drawings (within thirty working days average) for conformity to flood regulations.
- Review flood studies for all encroachments into flood hazard areas (thirty working days average)
- Issue, track and review flood certification permits in conjunction with Building Permit issuance as appropriate. Act on applications/site plans from Inspections/Development Plans/Permits (IDPP) within five working days average.
- Disseminate FEMA flood information and Wake County Flood Hazards Soils information to the professional community, the public at large and other governmental agencies (same or next working day service to be the average).
- Assist with Board of Adjustment and Planning Board cases by providing technical evaluation and review of site plans and any required calculations or construction drawings. Staff to attend all monthly meetings or be available for consultation.

Performance Measures

Water Supply Watershed Regulations and Stormwater Control, Management and Watercourse Buffer Regulations

- The percentage of permit applications reviewed and acted upon within five working days.
- The percentage of final subdivision plans reviewed and acted upon within three working days.
- The percentage of stormwater management plans and construction drawings reviewed and acted upon within thirty working days.

Floodplain Management

- The percentage of building plans reviewed within five working days.
- The percentage of commercial plans reviewed within five working days.
- The percentage of preliminary plans reviewed within five working days.
- The percentage of final subdivision plans reviewed within three working days.
- The percentage of construction drawings reviewed within thirty working days.
- The percentage of flood studies reviewed for all encroachments into flood hazard areas within thirty working days.

Implementation Schedule

- Track performance measures from beginning of FY on a daily basis.

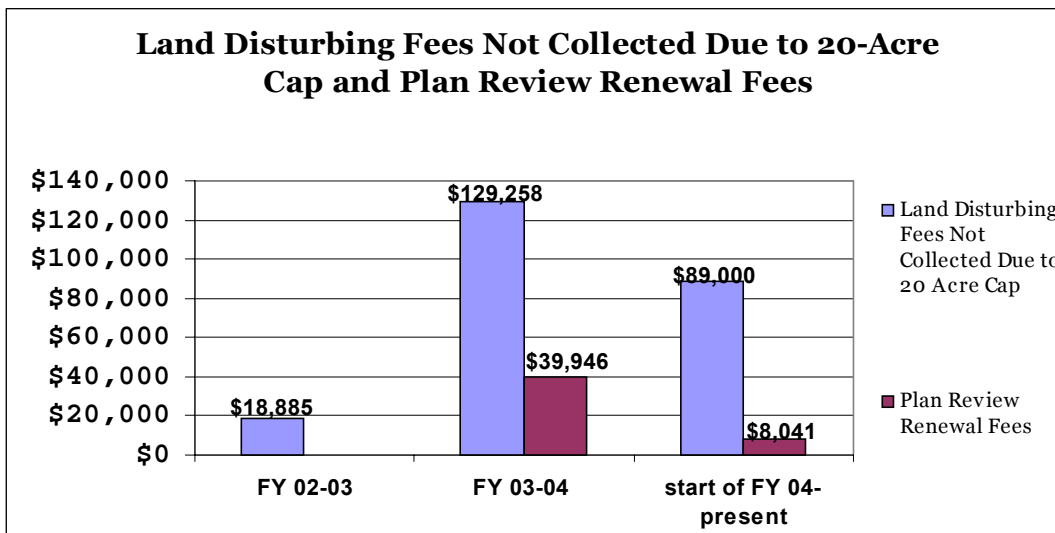
B. SEDIMENT AND EROSION CONTROL PROGRAM

Strategies for Achieving Outcomes

Short Term

- Increase monthly inspections of active projects to 90%. Currently Wake County manages a monthly average of 500 active projects per month. To achieve a level of 90% inspections of these projects, staff engineers will begin inspecting sites based on development clusters in order to visit more sites during any given trip into the field. It is also anticipated that with the loss of the Town of Morrisville's program in 2005, there will be 7-10% fewer projects to be inspected by the County.
- Establish a more equal fee system by removing the 20-acre cap of fees on the Land Disturbing Permits and eliminating the Plan Review fee from the Land Disturbing Permit renewal process. The current cap of 20 acres does not adequately address the time the engineer spends inspecting sites greater than 20 acre. In FY 2002-2003, \$18,885.00 was not able to be collected in Land Disturbing Permit fees because of the 20-acre cap. In FY 2003-2004, this amount was \$129,258.00. In FY 2004-2005, this amount is \$88,995.00. Developers in Wake County can clear large areas for a small fee compared to other large S&EC programs in the state. These large projects are one of the biggest problems regarding off-site sedimentation. Removing this cap will reduce these large-scale grading projects, which in turn will significantly reduce off-site sedimentation. (See Figure II-1 below.)

Figure II-1: Land Disturbing Fees Not Collected Due to 20-Acre Cap



During the Land Disturbing Permit renewal process, permit holders are required to submit a one-year renewal fee of \$500.00 per disturbed acre. This fee includes \$250.00 for the land disturbing permit and \$250.00 for the plan review fee. However, unless there has been a significant change in the plans since the initial approval, Wake County does not review the plans a second time. Charging the plan review fee again is not necessary, and it is proposed that this fee is removed. Figure X-3 shows the amount of yearly revenue that will be lost by removing this fee. In FY 2003-2004, the revenue from plan review renewal fees totaled \$39,946.

3. Amend Wake County's Sedimentation & Erosion Control Ordinance to allow for more stringent regulations and provide stiffer penalties for violators.

Long Term

Establish environmental education programs within the development community. This will be accomplished by establishing "Lunch & Learn" and "Clear Water Contractor" programs with home builders and grading contractors that are involved in construction projects in our jurisdiction. A one-page, double-sided brochure explaining the revised S&EC regulations is to be printed and distributed with each Wake County building permit. This brochure will also show typical erosion control devices required for construction areas.

Performance Measures

- **Percentage of required plan review procedures completed within required timeframe.** These timeframes are: 5 working days for initial comments on new submissions; 30 calendar days for full review comments; and 15 working days for resubmissions.
- **Percentage of stabilized projects inspected once per month.** The program goal for FY 2005-2006 is to conduct 90% of the field inspections on land disturbing activities once a month for stabilized projects.
- **Percentage of new construction projects inspected twice per month.** On new construction, the program goal is for engineers to conduct 100% of these inspections twice a month. These inspections are conducted in order to evaluate performance of the sites' treatment measures.
- **Percentage of enforcement proceedings initiated on sites in violation within 24 hours of identification in the field.** The program goal is to initiate enforcement proceedings on sites in violation immediately after such violations have been identified in the field. Sites are to be brought into compliance as soon as possible.
- **Percentage of drainage complaints and citizens' inquiries investigated within 24 hours of receipt of complaint.** The program goal is to investigate 100% of drainage complaints and citizens' inquiries immediately after Wake County has been contacted.

- **Percentage of eligible engineers who have taken and passed the Certified Professional in Erosion & Sedimentation Control Exam.** 100% of eligible engineers shall take the Certified Professional in Erosion & Sedimentation Control Exam.

Implementation Schedule/Timeline

- Ensure that 90% of all active projects are receiving the minimum inspections by December 31, 2005.
- Institute the new fee system after July 1, 2005.
- Amend the Wake County Sedimentation & Erosion Control Ordinance and have the County Commission, the State of North Carolina, and the municipalities under our jurisdiction approve it in late 2005.
- Establish the “Lunch and Learn” program by December 31, 2005. Establish the “Clear Water Contractor” Program through the NC Dept. of Environment and Natural Resources by December 31, 2005. The building permit brochure is scheduled to be printed after July 1, 2005.
- Conduct annual meetings throughout FY 2005-2007 with representatives from Garner, Fuquay-Varina, Morrisville, Knightdale, Wake Forest, Rolesville, Wendell, and Wake Forest to discuss service delivery, etc.
- Attend S&EC continuing education seminars and classes annually throughout FY 2005-2007.
- Ensure that 95% of all active projects are receiving the minimum inspections by December 31, 2006.
- Ensure that 100% of all active projects are receiving the minimum inspections by December 31, 2007.

C. SOIL AND WATER CONSERVATION DISTRICT PROGRAM

Strategies for Achieving Outcomes

Watershed Management:

Individual Land Unit Management (Planning and Application). In order to achieve this outcome, the S&WC sub-section recently integrated appropriate sections of the County’s Environmental Stewardship Agenda (ESA) into its annual strategy plan provided to the NC Division of Soil and Water Conservation (NC DSWC). In order to receive cost-shared funds, each government participant into the program must provide an annual strategy plan to the Division. By integrating the ESA into the NC DSWC strategy plan, S&WC has targeted cost-shared funds for implementation of best management practices into these priority areas. Additionally, the S&WC sub-section developed a GIS project identifying the parcels that formerly owned tobacco quotas in conjunction with the size of the allotment. This will help identify the areas of concern for transitions away from the traditional crops to land used conversions of more severe consequence.

- In Wake County's annual strategy plan to the NC Division of Soil and Water Conservation, a new strategy was developed to integrate the County's Watershed and Open Space Plan priorities into the distribution of cost-shared funds, a driving force to achieving this goal. The new strategy awards higher point values on lands located within the Watershed Plan's priority basins and the Open Space priority corridors. The distribution of cost-shared funds is based upon the total point values received for impaired lands, thereby dedicating more resources to the County priority areas. This strategy will be refined as the Watershed and Open Space Plans progress.
- S&WC staff developed a map showing the tobacco allotments identified by poundage and geographically located. This will enable staff to identify those areas that will be likely candidates for a shift in production. Discussions are under way to develop a strategy for determining which producers/owners will maintain tobacco production and which producers/owners are likely to change operations.

Basin and Sub-Basin Land Management. Currently staff has performed this function using the generally accepted principles used with the individual land management planning by NRCS and integrating GIS technology in analyzing such data as current and projected land uses, watershed analysis, and other pertinent data development. In developing these plans for which additional sources of funding are requested, staff has begun to use established protocols that are used by other agencies, in addition to the NRCS standards, in determination of baseline data relevant to the project and potential sponsors, granting sources, and other financial assistance partners. A set of Standard Operating Procedures will be developed, time and staff permitting, to use in developing a Basin or Sub-basin plan. Training needs will be assessed and sought by existing partnerships and by outside sources as appropriate. Much of this may be done at little or no cost.

A more focused effort will be undertaken to ensure proper communication with the relevant parties regarding basin planning. Currently there is no formal method in ensuring that the data and the analysis provided is serving the proper function. Discussions have taken place with internal and external partners on methods best suited for furthering basin plans and subsequently additional funding for acquisitions and land management activities.

- A set of standards and protocols will be developed for accomplishing the basin and sub-basin planning and implementation practices. The standards and protocols will match or exceed State and Federal guidelines so that funding for implementation can be obtained. Additionally, current and projected land uses will be determined and impacts to the natural resource base modeled from established and recognized procedures.
- Priority areas will be identified from the Watershed and Open Space Plans in addition to other partnering entities priority areas. Communication with the proper groups will be maintained or developed to ensure effective and efficient personnel resources are utilized and that maximum funding can be obtained for implementation.

Open Space Management:

Acquisitions. Much of the same discussion as outlined in the Basin and Sub-basin Land Management section above is pertinent here and will not be reiterated. Additionally,

however, staff will integrate the Open Space Plan priorities in the assessment process. Strategy plans for determining the “best-fit” for potential leveraging of funds for each acquisition should be developed during the acquisition process. This will ensure efficient and effective data collection and grant development. Currently about 20% of the land acquired is under a plan. This percentage will drop without additional resources.

- The standards and protocols adopted for the basin and sub-basin planning will also be useful (and are currently generally being used) for assessments being conducted on open space properties. This ensures higher probability of generating leveraged dollars for acquisitions.
- Potential exists for additional funding sources for some open space acquisitions. Discussions have begun with the agencies involved. As the potential develops for these sources, a work group of stakeholders will be formed to plan a strategy for maximum leverage based upon the funding authorities priorities.
- Additional work is needed to communicate the effectiveness the County’s goals with those of partnering agencies. A strategy plan for each major acquisition needs to be developed which will maximize the County’s ability to leverage funds with the financial partner(s)’ needs while still preserving the County’s goals. Each acquisition will likely have differing goals and objectives. It is suggested that an internal working group be developed to evaluate the Open Space program objectives, the assessment data, and partnering agencies’ objectives prior to each acquisition to determine the “best-fit” for leveraging funds.

Stewardship. Currently 0.4% of the acquired land within the County’s control has had best management practices implemented. Approximately 10% should be accomplished by this date for a meaningful stewardship program. A seven-agency team has been gathered to help write a business plan for the stewardship activities to be conducted on the open space properties. This business plan will help define the roles and objectives more clearly. The management of the program will be critical to achieving success. Some grant funds have been secured to forward implementation practices and some work has been accomplished. A review from the grant sources was very recently conducted and they looked very favorably at the accomplishments to date. As decisions are made regarding the processes with which to conduct the stewardship activity, these practices will be implemented. The addition of a half FTE dedicated to these open space practices will further this agenda.

- An additional FTE will achieve 200 acres of planned acreage and 40 acres of applied BMP’s to open space lands.
- The Land Stewardship Business Plan is being developed. This business plan is a cooperative effort between seven agencies involved with stewardship activities. The plan will more clearly define roles and responsibilities of each agency with regard to stewarding the open space properties.
- More clearly defined roles will help forward management decisions to be made with regard to implementing the existing plans and to develop the management plans on newly acquired properties.
- Partnerships with external agencies and Non-Government Organizations (NGO) will be maintained and enhanced for technical and financial assistance. These agencies

and NGO's reduce staff requirements as well as bring needed financial resources to open space projects.

Funding Sources for Implementation:

Cooperative Partnerships. Maintaining and enhancing existing relationships is crucial to success of this outcome. Additionally, the integration of the funding authority's objectives in concert with the County's objectives is also a crucial step for success. NC EEP's funding of these projects will be more difficult this year as stream credits are in a surplus for the Neuse Basin and very close to on par in the Cape Fear Basin. Additional sources of funding have been and will continue to be needed to forward viable projects. Tours have been conducted with the regulatory agencies governing stream, wetland, and riparian buffer mitigation needs and credits. This proved very fruitful and discussions will continue. Additionally, a tour was held with several of the environmental engineering firms versed in this work. These discussions generated much interest. Discussions have also been held concerning the development of a mitigation-banking instrument. All of these avenues are worth further exploration.

- As described in the section above, additional communication and the potential for development of an internal work group to examine the "best-fit" solution to integrate the County's objectives with the needs of potential financial partners would help forward additional leveraging of funds.
- NC EEP is in a surplus of stream mitigation credits for their program for the Neuse River Basin, comprising about 80% of the County's boundary. They are about level with regard to wetland mitigation credits currently and are in need of riparian area mitigation credits for the Neuse Basin. NC EEP is in need of mitigation credits for the Cape Fear Basin in all three categories. As a result, there is little demand for stream and wetland restoration projects to be funded by NC EEP. Additional sources of funding will be needed in order to fund potential projects.
- Soil and Water Conservation staff has maintained a list of potential projects not meeting NC EEP criteria. This list will be kept up to date.
- A strategy for developing a mitigation bank to be used for Wake County and potentially private and/or other public entities should be developed. Discussions have been held by S&WC staff and regulatory authorities regarding the mitigation banking process and the initial discussions have been looked at favorably. This would require substantial initial investment by the County to be repaid or used in outlying years. The use of mitigation banking instrument(s) would further stream restoration efforts in the County at reduced to no costs other than staff time in the long run but with capital expenditures up front.

Cost-shared Funds. The S&WC staff, in its annual strategy plan developed for the Soil and Water Conservation District Board and delivered to NC DSWC for cost-shared funds, suggested integrating the County's Environmental Stewardship Agenda into the strategy plan. The Board unanimously agreed. This will prioritize and target the distribution of cost-shared best management practice funds into the County priority areas. An inventory of existing animal operations will be pursued and a GIS database will be developed from this

data collected. This will enable staff to target operations in an efficient and prioritized manner.

- The S&WC must provide a strategy plan yearly to the NC Division of Soil and Water Conservation in order to obtain cost-shared funds. This strategy plan includes resources and a plan for implementing the cost-share program. In last year's submittal, S&WC staff reprioritized the parameters for distribution of cost-shared funds. Within the parameters, and scored at the highest level, was integration of the County's Watershed, Open Space, and Groundwater Plans.
- In order to develop an inventory of existing and new animal operations the S&WC staff will locate these properties in the field and with the assistance of Wake County GIS and Cooperative Extension Service. The data will then be integrated into a GIS project with baseline data including the number and type of animals, size of the tract, etc. From the GIS database, proximity to streams, priority corridors, and the like can be determined. This data will then be analyzed to determine the best course of action for getting the "biggest bang for the buck".

Grant Funding. All grants will be forwarded to the Environmental Services Grant Team for, at a minimum, review and comment. Most, if not all grants will be submitted through this process. This will allow coordination among the Department and beyond. Tours will be given to the Grant Team to educate and involve them in the services provided by S&WC.

- Grants will be prioritized in accordance with the County's Environmental Stewardship Agenda and processed through Environmental Services Grant Team. Tours will be provided to the Grant Team to show some of the work that has been performed with prior grants.

Environmental Education and Environmental Information Initiatives

In order to achieve the desired outcomes for EE-EI, the S&WC sub-section will:

- Develop a strategy plan that aligns and prioritizes its EE-EI goals with respect to the Water Quality Division's Business Plan, EE-EI Business Plan, and ESA. This has not been done before in S&WC.
- Devote a minimum of 6% of each S&WC staff member's work plan to EE-EI in 2006 (6% of 2,000 hours = 120 hours.) Increase to 7% or 140 hours in 2007. Increase to 8% or 160 hours in 2008.
- Prioritize and conduct at least 2 water quality or open space or environmental stewardship EE initiatives in 2006 using training workshops, hands-on lessons, interactive presentations, tours/site visits/field excursions, interactive exhibits, or special events/festivals. Increase to 3 EE initiatives in 2007. Increase to 4 EE initiatives in 2008.
- Prioritize and produce at least 2 water quality or open space or environmental stewardship EI initiatives in 2006 via one-on-one meetings, PowerPoint presentations, articles in newsletters/newspapers/magazines, printed materials such as brochures, broadcast media such as radio and TV PSAs, interviews, web pages/websites, bulletin boards/displays/kiosks, or information booths at public events. Increase to 4 EI initiatives in 2007. Increase to 6 EI initiatives in 2008.
- Seek, develop and maintain partnerships (internal or external) to leverage and/or implement collaborative EE-EI initiatives in 2006-2008. This will especially help in

- maximizing EE-EI to Wake County's 5 target audiences: Wake County employees and officials, Government Agencies, Regulated Community, Citizens, and Schools.
- Write and submit grant proposals, with the assistance of the ES Grant Team and others, to procure funding for EE-EI initiatives in 2006-2008.
 - Develop and implement an EE-EI evaluation tool and a progress reporting system to better track EE-EI data and develop performance measures. Compile and compare 2006 to 2007 to 2008.
 - Maintain open communication via regular EE-EI progress updates at staff meetings, etc.
 - Actively participate in a minimum of 10 hours of professional development training in 2006 to update content knowledge and skills in water quality, open space, environmental stewardship, or EE-EI. Increase to 15 hours in 2007.

Performance Measures

Workload Measures

The following statistics have been traditionally used to evaluate the performance of the S&WC Program:

- Number of Acres Planned
- Number of Acres Where Plans Are Implemented
- Environmental Education and Environmental Information – Hours and Participants
- Dollars Encumbered for Conservation Measures
- Number of Contracts Written
- Feet of Streams Assessed
- Acres of Wetlands Assessed
- Voluntary Ag Districts Established (as percentage of agricultural properties)

In order to measure the program's effectiveness at cost recovery, funding levels are also evaluated on a per FTE basis. For this determination, the following measure is used:

- Funding Brought Into the County per FTE

Effectiveness of Program Delivery

In order to gauge the effectiveness of program delivery the following performance measures will be employed:

Temporal Measures

- Percentage of contracts written and approved within 60 days from sign-up
- Percentage of contracts implemented within one year

Established Protocols

- Linear feet or percentage of stream assessments receiving Level I assessments
- Linear feet or percentage of stream assessments receiving Level II assessments

- Linear feet or percentage of stream assessments receiving Level III assessments
- Percentage of streams receiving EPT rating baseline determination
- Percentage of streams receiving EPT rating follow-up determination
- Percentage of streams receiving Piedmont Stream Habitat Rating

Level of Service Delivery

- Acres/percentage of acres planned meeting Resource Management Systems criteria
- Acres/percentage of acres planned meeting Basic Management Systems criteria

Participants Ratings

- Percentage of participants giving Excellent/Good/Fair/Poor ratings on EE-EI programs

“Third Party” Appraisals

- NRCS spot checks
- NC Agricultural Cost-Share Program spot checks
- NRCS Program Appraisals
- NC Division of Soil and Water Program Appraisals

Scientific Methods at End-Points

- Water quality testing for sediment, nutrient, bacteriological, and other water quality parameters

Implementation Schedule

\$1 Million of funding sources for implementation of the County’s Environmental Stewardship Agenda. This milestone is anticipated to be reached in FY 2006-2007. Described below are additional anticipated dates of achievement of the aforementioned desired outcomes.

Individual Land Unit Management

- Provide natural resource management plans on 800 acres impaired lands for FY 2005-2006.
- If a FTE is obtained, provide natural resource management plans on 865 acres of impaired lands.
- Provide application of best management practices (BMPs) on 940 acres of impaired lands for FY 2005-2006
- If a FTE is obtained, provide application of best management practices on 1,053 acres of impaired lands for FY 2005-2006.

Basin and Sub-basin Land Management

- Develop a standard for instituting Basin and Sub-basin Watershed Management planning procedures by FY 2005-2006.
- Identify strategic areas such as those with the greatest concern for water quality and/or a high level of natural heritage significance by Spring, 2006.

- Identify and begin assessment of the first Basin/Sub-basin Watershed Management unit by end of fiscal year.

Acquisitions

- Provide a full-detailed assessment of the natural resource base to internal and external partners on all lands requested within 60 days or as scheduled by requesting authority.
- Provide natural resource management plans of 200 acres of OS program lands (FY 2006). These plans will address all resource management concerns such as water, wildlife, open lands, and forested lands.
- If a FTE is obtained, provide natural resource management plans on 350 acres of OS program lands (FY 2006).
- Provide consultation on “best-fit” sources for grants and other leveraging financial devices for optimum use of County funding. These best-fit solutions will include new sources of funding including the potential for private partnerships (begin Spring 2006).

Stewardship

- Provide technical assistance on County Open Space (OS) program lands within 60 days or as scheduled by requesting authority.
- Provide application of best management practices on 60 acres of OS program lands for FY 2005-2006.
- If a FTE is obtained, provide application of best management practices on 100 acres of OS program lands for FY 2005-2006.

Cooperative Partnerships

- Secure \$1.2 million in funding for stream, wetland, and riparian corridor restoration, enhancement, and preservation projects (FY 2006).
- Develop a strategy for the “best-fit” solution to maximize leverage of County dollars (FY 2006).
- Maintain a list of potential restoration and preservation projects (ongoing).
- Maintain a list of Requests of Qualifications for environmental engineering groups versed in the stream, wetland, and riparian corridor restoration projects (FY 2006).

Cost-shared Funds

- Secure \$150,000 of State and Federal funds for implementing best management practices on impaired lands (FY 2006).
- Develop a strategy consistent with State, Federal, and County objectives to maximize efficiencies and benefits/costs in cost-share funding (Winter 2004).
- Determine “best-fit” options for maximizing benefits/costs for water quality concerns (ongoing).
- Develop an inventory of existing animal operations, geographically located, with baseline data about the operation (begin Spring 2005, complete by Spring 2006).

Private Sources

- Track the contributions of private funding sources for implementing best management practices on impaired lands. Include this data in reports to show total costs of BMP implementation (ongoing).
- This amount is projected to bring in an additional \$60,000 toward BMP implementation projects (FY 2006).

Grant Funding

- Secure \$32,000 in grants for implementing BMP's on impaired lands (FY 2006).

D. GROUNDWATER PROGRAM

Strategies to Achieve Outcomes

Regulations Governing Well Construction and Groundwater Protection in Wake County, Mobile Home Park ordinance and Migrant Housing inspections

- Reduce the number of missed well grouts from 15% to less than 5%.
- Reduce the number of missed well abandonment inspections from 52% to less than 10%.
- Perform 90% of all wellhead inspections within three working days.
- Complete 90% of required inspections on mobile home parks.
- Complete 100% of required inspections on migrant housing facilities.
- Complete water sample collection and analysis in under ten (10) working days.
 - To achieve the outcomes listed above will require the addition of one FTE at the beginning of FY 2005-2006. The FTE will need to be an authorized EHS to avoid training costs and to provide continuity of services.
- Develop a partnership with the Wastewater Management Program to pursue the development of electronic site plans and further automation of the permit creation, storage and retention processes.

Strategic Groundwater Initiatives

- GIMS Database – Collect one hundred percent (100%) of all relevant water sample data and import into the GIMS system.
- Obtain X and Y coordinates for one hundred percent (100%) of all wells sampled through use of GPS units.
- Seek grants and recurring funding sources for the installation of monitoring wells and stream gauging stations throughout Wake County.
- Implement Phase II of the countywide Radon In Indoor Air and Groundwater Study.
- Public Education Campaign- distribute information (brochures, pamphlets, additional website enhancement) regarding well ownership and maintenance to five hundred (500) new and current well owners. Aggressively market the GIMS database with its associated links and information..
- Through the use of the GIMS database, identify two “high risk areas” (locations where there are domestic wells in close proximity to a known contamination incident of groundwater) and sample all at risk wells.

- Through the use of the GIMS system and the existing mainframe database system, track and collect data on low yield and non-producing wells.
- Report conclusions and recommendations of radon levels across Wake County.

Performance Measures

Regulations Governing Well Construction and Groundwater Protection in Wake County

- The percentage of well grout inspections missed.
- The percentage of well abandonment inspections missed.
- Percentage of wellhead inspections performed within three working days.
- The percentage of mobile home park inspections performed.
- The percentage of Migrant Housing inspections performed.
- The percentage of water sample collection and analysis completed in fewer than ten (10) working days.

Strategic Groundwater Initiatives

- Percentage of relevant water sample data collected and imported into the GIMS system.
- Percentage of wells sampled for which X and Y coordinates were obtained using GPS units.
- The number of grants and new funding sources obtained.
- The number of well owners to whom well ownership information was distributed.
- Through the use of the GIMS database, identify two “high risk areas” (locations where there are domestic wells in close proximity to a known contamination incident of groundwater) and sample all
- The percentage of at risk wells sampled in “determined high risk areas.”

Implementation Schedule

Regulations Governing Well Construction and Groundwater Protection in Wake County

- FY 2005-2006, be fully staff by adding one authorized EHS to perform Migrant Housing and Mobile Home Park inspections as well as to assume a percentage of Groundwater Program activities and inspections.
- FY 2005-2006, turn around time for collection and processing of samples will be two weeks or less.
- FY 2005-2006, ninety-five percent (95%) of all well grouts and well abandonments will be inspected.

Mobile Home Park Ordinance and Migrant Housing Inspections

- All required inspections for FY 2006-2007 would be completed.
- One hundred percent (100%) of fees will be collected for FY 2005-2006.

Strategic Groundwater Initiatives

- FY 2006-2007, establishment of a Long-Term Monitoring Network

- FY 2006-2007 Complete Phase II investigation of Radon In Indoor Air and Groundwater Study.
- Continued implementation of public education campaign targeting well owners
- FY 2006-2007, identify areas of limited groundwater availability through use of GIMS and mainframe system databases.

E. WASTEWATER MANAGEMENT PROGRAM

Strategies for Achieving Outcomes

Article 11 of Chapter 130A NCGS 15A NCAC 18A .1900

Interns vs. Registered Sanitarians. WCES has submitted a request to Human Resources to upgrade the band for EHS positions to maintain a competitive standing with the market and attract more highly qualified and experienced employees. These positions require a Registered Sanitarian license and annual professional development training to be able to conduct these services and maintain licensure. Due to the licensing and training requirements, these positions are not readily market-available. Thus, replacement of staff will require the pre-qualification training (at substantial cost and management time to the County) unless more competitive salaries are available to attract experienced Registered Sanitarians from other government agencies. The study undertaken by Wake County's consultant showed no need to elevate the positions to Band 28 to compete with other markets. The Department disagrees with the conclusions of the survey.

Automation of Records. Environmental Services continues to pursue ways to automate permits. The Water Quality Division is currently participating in a study utilizing GPS for water and wastewater system location, along with improved automation in permit generation. Cooperation with IDPP and Revenue Departments on electronic site plans on the Internet continues to progress slowly. Monies are being budgeted for pursuit of these initiatives.

Management of Existing Septic Systems. In the Comprehensive Watershed Management Plan (CH2MHill, 2003), it was suggested that a management entity be considered to ensure proper operation and maintenance of septic tanks. As a part of that recommendation, the Watershed Management Task Force also recommended that a pilot study be conducted to determine the need for such an entity. Environmental Services staff has, in consultation with Dr. Mike Hoover of North Carolina State University, conducted such a study. Data analysis has been completed, with a final report expected in early 2005. Based on the results of this study and compared to other failure rate studies, the observed wet season failure rate of approximately 10% in the study sample indicates that the current wastewater program implemented by WCES is working reasonably well. If this failure rate is projected to the entire population (approximately 55,000) of existing septic systems, then it is estimated that as many as 5,500 unrepaired failing systems may exist during a typical wet season. Although the observed failure rate is not excessive in light of other studies, it is deemed higher than desired or believed achievable and points to the need for more extensive management of septic systems. Additionally, there is need to address to the large number of mandated operation and maintenance inspections that WCES is currently not staffed to conduct. WCES

will study management options and sources of funding with a goal of provision of expanded management in FY 2006-2007.

Development of a Repair/Complaint Team. To address the upward trend of repair requests and the increasing number of existing septic systems approaching twenty years of age, OSWW will create an experienced repair team for the exclusive duty of addressing system repairs and proposed additions to properties that impact septic systems. Conducting environmental surveys, review of additions to existing properties, and responding to citizen's complaints will be the primary focus of the team. The formation of this team will require an upgrade of one existing field position to that of team leader. With the development of existing staff through training in diagnosis and remediation of wastewater system problems, OSWW anticipates having the team and team leader in place in FY 2005-2006.

Education of Citizens. The need for education materials for septic system users has long been recognized. This need was also strongly supported by findings of the septic System Pilot Study, particularly as related to site/system maintenance. WCES continues to partner with the Raleigh Regional Association of Realtors to distribute public education information on wells and septic system use and maintenance. The Division of Water Quality provides this information in written form with either a compact disk or videotape. The Realtors distribute the public information packet to homebuyers. In compliance with Title VI of the Civil Rights Act, the material has been translated to Spanish.

Fee Analysis. Conduct a fee analysis and recommend fee adjustments to maintain a reasonable cost recovery (estimated at 65% to 70% of all staff time). Support any new staffing initiatives related to permitting and inspections with fee adjustments.

MOA with NC Division of Water Quality and DOA from NCDENR, Division of Waste Management

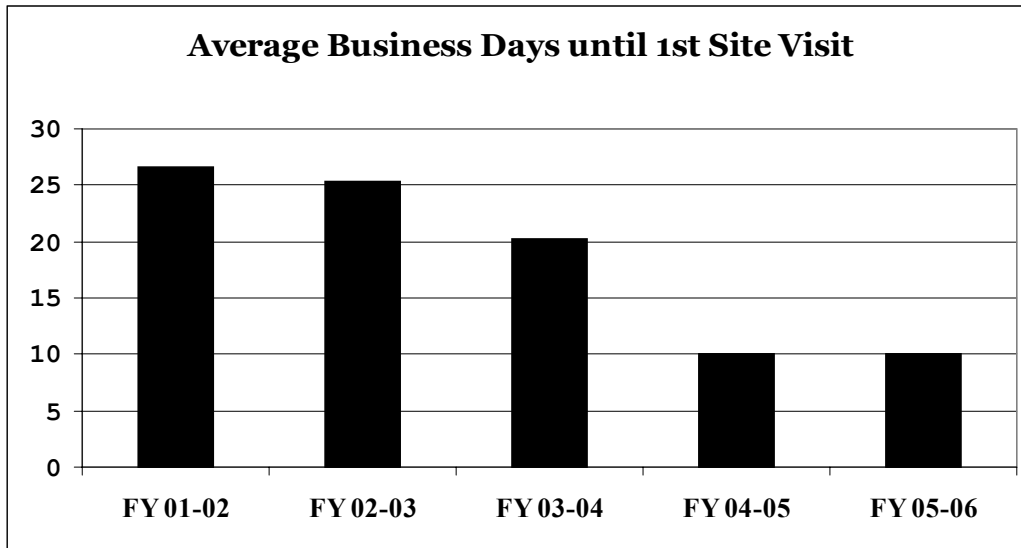
Facility inspection responsibilities addressed in the MOA were reallocated to TA with the transfer and reclassification of an existing staff position. Additionally, other responsibilities addressed in the MOA were assigned to other Programs/Sections within WCES.

Performance Measures

Article of Chapter 130A of the NCGS 15A NCAC 18A .1900

- **Turnaround time for applications.** Turnaround time for applications will remain under three weeks with existing staff and two weeks with staff increase of 3 FTE's (completion upon Authorization from DENR). Figure V-1 demonstrates the goal with additional staff.

Figure V-1: Average Business Days Turnaround



- **The number of audits completed per year by TA.** The TA Section’s internal quality assurance program shall conduct a minimum of two audits per year on permits and final inspections for new wastewater system installations.
- **Percentage of staff qualified to perform site evaluations.** Percentage of staff qualified to perform site evaluations will be 100% based on pay band increase to band 28 by mid 2006. Turn over rate from present 25 percent per year to be reduced to less than 5 percent by 2006.
- **Percentage of inspections completed same day.** Maintain staff level to continue to provide same day inspections on all finals called in before the 8:00 AM deadline and to provide more available inspection time slots by FY 2005-2006.
- **Percentage of fees collected.** Achieve 100 percent collection of all fees.

MOA with N.C. Division of Water Quality and Delegation of Authority from NCDENR of Waste Management (DOA)

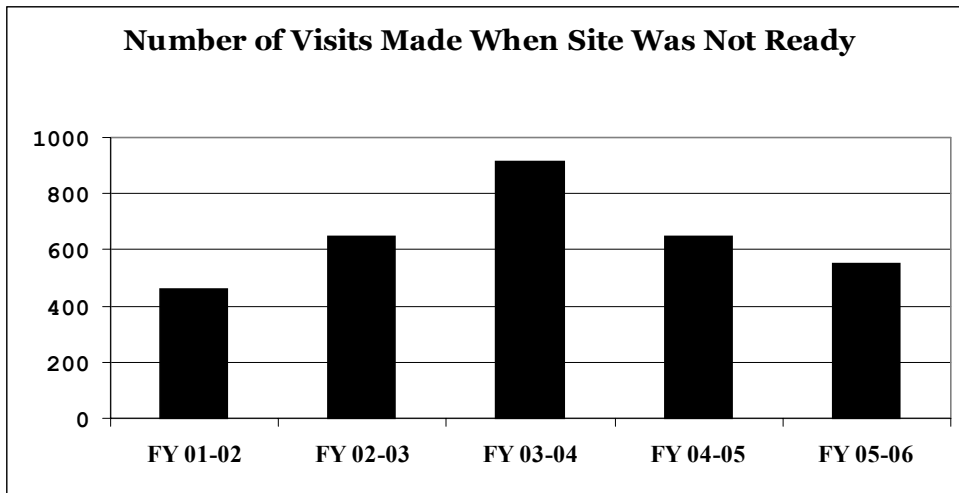
- **Percentage of citizen complaints addressed within three working days.** The goal is to respond to all citizens’ complaints within Wake County related to surface water protection within three working days.
- **Percentage of MOA- and DOA-required inspections completed.** The goal is 100 percent completion of all MOA and DOA required inspections.
- **Percentage of fees collected.** The goal is to achieve 100 percent collection of all fees.

Implementation Schedule

Article of Chapter 130A NCGS 15A NCAC 18A .1900

- FY 2006-2007, be fully staffed with authorized RS's with a pay band level 28.
- FY 2006-2007, turnover of staff will have decreased to 5 percent with pay band adjustment.
- FY 2006-2007, continue the education of citizens with printed material. Increase printing of packets to 3000 per year.
- FY 2006-2007, turnaround time for applications will be maintained at two weeks with additional staff
- FYs 2005 through 2007, Continue Lunch and Learn education for Builders on lot preparation through FY 2006-2007 as needed. Figure shows an increase in delays by builders. Lunch and Learn sessions will decrease the delays. Refer to Figure V-2 for projected reduction in site visits because of training sessions.

Figure V-2: Number of Site Visits (Due to applicant related delays)



Division MOA with N.C. Division of Water Quality and Delegation of Authority from NC DENR of Waste Management

- FY 2005-2006, complete all inspections and complaint responses addressed in the MOA & DOA.

VII. RESOURCE REQUIREMENTS

Staffing

The Division expects to be able to retain existing staff for Fiscal Years 2005-2007. Salary surveys for EHS and Team Leader positions may present a need for salary adjustments, which are currently not budgeted. Other salary surveys are likely to follow for other Water Quality Sections in FY 2005-2006.

Expansion requests were submitted for the FY 2005-2006 Budget for two FTEs. One full-time position is requested to support the Groundwater Program, including the new resources required for the assumption of the Mobile Home Park and Migrant Housing program from the Environmental Health and Safety Division. An additional FTE is requested to support the expanding responsibilities of the Soil and Water Conservation Program for Land Stewardship and better traditional service delivery regarding watershed programs.

Stormwater programs will be evaluated for potential staffing impacts for FY 2006-2007.

The formation of a repair organization will involve a reclassification of an existing EHS position to a Team Leader. This will be funded through existing fees in FY 2005-2006. Onsite Wastewater Septic Survey will potentially involve recommendations for additional staff for enhanced inspections, (see discussion above "Management of Existing Septic Systems " in Section E). There are likely impacts to budget in FY-2006-2007 attributable to this recommendation.

Operating

1. Training

- Per Certification Schedule, all Sections except Soil and Water Conservation are potentially affected. Budget impacts identified in FY 2005-2006 Budget request.

2. Vehicle Costs

- Normal costs associated with vehicles including lease rates, fuel, and maintenance/repair of equipment. (Note, additional vehicles needed for the two FTE expansions.)

3. Standard office supplies and equipment services

- Additional funding will be needed for printing cost for brochures to be distributed with each building permit and to translate the Stop Work Order in Spanish.

Capital Improvement Requests

- Capital is needed for consulting services for the implementation of NPDES Phase II, Step II in FY 2005-2006 and Step III in FY 2006-2007
- Capital is needed for WCOB Sixth Floor Office renovations.

Technology

- None identified